

**NEW INITIATIVES IN PUBLIC/PRIVATE CONTRACTING  
UNDER THE BUILD-OPERATE-TRANSFER MODEL**

**BY**

**MICHAEL W. ARMES**

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**A REPORT PRESENTED TO THE GRADUATE COMMITTEE OF THE  
DEPARTMENT OF CIVIL ENGINEERING IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ENGINEERING**

**UNIVERSITY OF FLORIDA**

**Summer 1996**

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To my lovely wife, Lisa

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## **CHAPTER 1**

### **INTRODUCTION TO PUBLIC/PRIVATE CONTRACTING PARTNERSHIPS**

#### **1.1 Summary of the Issue**

Internationally, the demand for infrastructure continues to grow as repressed needs of developed countries and new needs of emerging countries proliferate. This requirement for infrastructure provision causes great pressure on public expenditure. Member countries of the Organization for Economic Cooperation and Development (OECD), for example, devote on average nearly one-fifth of capital formation to infrastructure (1:3). The increased need for infrastructure coupled with debt and tax limitations on governments which restricts their ability to provide capital for infrastructure projects has led to the involvement of the private sector in comprehensive contracting partnerships.

#### **1.2 History**

The involvement of the private sector in the provision of public infrastructure is not new. Historically, an interface between the public and private sector has existed with respect to the essential elements of a project's life cycle: planning, designing, constructing, financing, and operating the end product. Governments have traditionally contracted with architect and engineering firms for planning and designing services. Private contractors have also been encumbered for building and operating infrastructure projects. Additionally, financial institutions have been utilized by governments to issue municipal debt instruments for project financing. However, even with the involvement of private entities, the government has maintained overall responsibility for controlling the project across all sectors of the project life cycle.



Recent initiatives taken by governments have altered the conventional methods of involving the private sector in infrastructure projects. Utilizing complex forms of contracting, the private sector is becoming involved in infrastructure provision from the ground up across the entire life cycle of the project. The idea behind the extensive involvement of the private sector in infrastructure provision is introduced in the build-operate-transfer (BOT) model of project development. The BOT concept for the implementation of privatized infrastructure projects may be defined as the granting of a concession by the government to a private promoter, known as the concessionaire, who is responsible for the financing, design, construction, operation, and maintenance of a facility over the concession period before finally transferring the fully operational facility to the government at no cost. During the concession period, the concessionaire owns and operates the facility and collects revenues to repay the financing and investment costs, to maintain and operate the facility, and to make a margin of profit (2:282).

The term "build-operate-transfer" is widely believed to have been first coined in 1984 by Turkish Prime Minister Turgut Ozal within the framework of privatizing Turkey's public projects. However, the contractual arrangements characteristic of BOT schemes have been used for several centuries, and much of the infrastructure of a number of countries was put into place by the use of similar mechanisms (3:222). Because of the benefits that can be derived, there has been a renewed interest recently in the application of BOT concepts toward the provision of infrastructure. Examples of infrastructure projects that have been privatized on a BOT basis are power stations, water-supply and sewage-treatment plants, toll roads, tunnels, and bridges. Countries where BOT projects

are in place include the United Kingdom, France, and Ireland, among OECD countries, and Malaysia, Hong Kong, and Thailand among developing countries (3:222). The United States also has experimented with similar contract arrangements mainly in toll road projects; however, its experience is comparatively more limited.

### 1.3 Benefits of Implementation

Public-private partnerships offer the most effective means of providing infrastructure in many cases. As suggested previously, the greatest benefit to be derived from private sector involvement in infrastructure provision is the ability to execute urgently needed projects without placing additional strain on government spending. Public-private partnerships also encourage the optimization of operation and construction costs. It is in the promoter's interest to look not only at the initial capital costs, but also at the operating costs and to strike an optimal balance. By contrast, public spending controls can result in an overemphasis on driving down initial investment to the detriment of costs over the lifetime of a project. Another benefit to be derived from privatization of infrastructure projects is cost savings. The design/construction interface can often be a source of conflict and cost overruns. Placing responsibility for both design and construction within a single organization eliminates the interface and encourages the promoter to focus on the cost-effective solution of the problems that arise. Finally, public-private infrastructure projects allow for better allocation of construction risk. One of the principal risks associated with infrastructure projects is cost overruns during the construction stage. This risk can best be managed by a contractor. The government is shielded from construction

risks when infrastructure is privatized yet is able to provide the social benefit of functional facilities to the public (4:59-60).

In summary, governments are coming to appreciate the benefits of private sector infrastructure provision as public spending is curtailed and projects are delivered more cost effectively. As such, public-private partnerships are being viewed as the appropriate vehicle to advance certain infrastructure projects. Specific elements of public-private partnerships, the structure of BOT processes, and an analysis of projects completed under BOT contracting mechanisms will be discussed in the remainder of this report.

## **CHAPTER 2**

### **RISKS AND GUARANTEES IN PUBLIC/PRIVATE CONTRACTING PARTNERSHIPS**

#### **2.1 Private Sector Risk Burden**

With the development of new trends in public-private contracting partnerships more risk is assumed by the promoter as compared to traditional methods of contracting. Under conventional mechanisms the capacity for risk sharing between public and private parties exists. For example, a private contractor is typically able to negotiate with the public client concerning claims arising during the construction process. Under contracting methods such as the BOT concept this is no longer possible as promoters are expected to provide guarantees against completion risk, cost overrun risk, performance risk, and financing risk. Therefore, the ability of a private entity to assume project risks is a significant element of new practices in public-private contracting.

The rationale for BOT-type contracts from the government's perspective is that if private firms are willing to shoulder part of the risks involved, not only will the state be better protected but also the total risk to the economy as a result of poor investment decision making may be reduced (5:15). Also, since the objective of BOT projects is based, in part, on governments reducing their indebtedness, it is essential that the promoter carry the maximum risk (6:184). From a promoter's perspective risks need to be balanced by potential rewards and assurances are necessary to show that revenues are adequate to cover costs and allow for a reasonable profit (7:43). Many factors influence the risks that a promoter may be willing to take. A promoter will be less agreeable to undertake a project in a developing country, for example, because of market uncertainties.

Also, when government imposes limits such as establishing a ceiling on rates or tolls to be charged by a concessionaire operating a facility, the risk of undertaking the project may be too great. As such, an appropriate balance of risks and guarantees between the parties involved in public-private contract arrangements must be established to ensure the likelihood of success for specific projects.

## 2.2 Public Sector Guarantees

The greatest level of risk minimization will occur if market forces are the principal determinant substantiating the need for a project. With the absence of explicit or implicit government guarantees, only those projects which are economically justified will be realized (5:15). However, instability exists in certain commercial and political climates and creates risks and uncertainties which may be beyond what a private promoter can manage. In such instances, government guarantees are necessary to ensure a stable environment for advancing a project. The following guarantees have been utilized by governments in managing different BOT-type contracts to create conditions suitable for the successful execution of projects (8:109-112):

### 2.2.1 Concession Period

The concession period refers to the amount of time the project's promoter is granted rights to operate a project. The concession period may or may not include construction time. The revenues collected by the concessionaire during this time will be used to pay project debt and operating costs with the remainder held as profit.

### 2.2.2 Support Loans

Support loans are funds offered by a government to support the financing of a project. The amount of capital offered and terms of indenture utilized in BOT projects has varied widely. Instead of providing loans, some governments have arranged “emergency loan facilities” to provide funds for sponsors should the need arise.

### 2.2.3 Minimum Operating Income

The concept of minimum operating income refers to the government guaranteeing a minimum income through underwriting costs incurred or revenue generated by a concessionaire. Utilizing various methods the government will, in effect, offset an unforeseen escalation in costs or subsidize revenue up to a guaranteed minimum by providing funds to the concessionaire.

### 2.2.4 Concession to Operate Existing Facility

Applicable mainly to BOT-type projects involving transportation systems such as roads, bridges, and tunnels, governments have granted promoters the right to operate existing infrastructure along with the new facility during the concession period. This reduces the risk of the promoter losing revenue due to competition with existing facilities operated by the government.

#### 2.2.5 Commercial Freedom

This condition refers to the absence of government restrictions placed on a promoter. Commercial freedom grants a promoter considerable leverage in establishing usage fees during the concession period.

#### 2.2.6 Foreign Exchange Guarantee

This type of guarantee offered by government serves to eliminate the price fluctuation risk in the currency market and is applicable to those projects where foreign currencies are involved in the financing. One of the major problems with infrastructure projects in developing countries is that they do not generate income in the currency used to finance the development effort. Thus, foreign exchange guarantees are necessary to enable the project sponsors to remit freely all project revenues in an attempt to reassure lenders and investors.

#### 2.2.7 Interest Rate Guarantee

In cases of development in areas where unstable inflation exists, governments have offered guaranteed repayment costs to reimburse a project's financiers the difference between a set interest rate and actual market-driven interest rates. This serves to limit the financial risks associated with such a project.

#### 2.2.8 "No Second Facility" Guarantee

This type of guarantee offered by government promises a promoter that a competing facility will not be built or an existing facility will not be improved for a set amount of time thereby eliminating the risk of competition.

### 2.3 Private Sector Undertakings

In return for government guarantees and incentives, the project sponsors are expected to undertake defined responsibilities to demonstrate their commitment to the project and to provide the basic security for the construction and operating risks that are within their control (8:112). The ability to assume project risks is evaluated in areas specifically associated with the construction contracting methods, operating plans, and financing schemes employed by the sponsor. To convey their ability to manage construction risks, sponsors may propose to complete the building phase via mechanisms that provide for a fixed price. Moreover, performance bonds can also be utilized by sponsors to limit the construction risk. With respect to operating plans, sponsors may be compelled to limit the tolls and other usage fees charged during the operating period. This practice forces the sponsor to focus on operating efficiency. Finally, the financing proposed by a sponsor provides significant insight into his ability to shoulder the monetary risks associated with the project. The private financing of projects will be discussed in detail in the following section. Overall, research conducted on risks and guarantees in BOT tenders has supported the premise that the awarding of a concession is strongly related to a promoter's ability to retain and reallocate risks and offer guarantees against risks and uncertainties (6:183).



## 2.4 Conclusion

In summary, depending on the circumstances surrounding the project, the application of certain guarantees by both public agencies and private sector sponsors in an effort to control risk comprises an important element of BOT-type contracts. The degree of government involvement must be carefully considered. There is no point, for example, in having a public authority allow a private promoter to make profits while tax payers retain excessive risk. Neither can a private promoter singularly shoulder risks associated with executing projects in an unstable political or commercial climate. Therefore, it is essential that the proper level of government support be available, that certain risks be properly allocated to the private sponsors, and that the contractual terms clearly establish roles and provide meaningful incentives to ensure the successful completion of BOT-type projects (8:121).

## **CHAPTER 3**

### **PRIVATE FINANCING OF PUBLIC PROJECTS**

#### **3.1 Financial Package Composition**

In a BOT-type contractual arrangement the promoter is fully responsible for arranging the necessary finance. In preparing a financial package, the promoter must consider the commercial and financial elements of the project. The commercial elements involve the guarantees and limitations imposed by government concerning contractual terms such as the concession period and toll structures. The financial elements include sources of loans, interest rates, capital structure, repayment and drawdown schedules, and the currency of loans and payments. In the evaluation of BOT proposals, the quality of the financial package is rigorously assessed. Overall, the attractiveness of the financial package is a key determinant in choosing a winning proposal (9:304-310).

In raising the necessary finance for a project, the promoter often incorporates a combination of debt and equity in the capital structure. Equity finance represents the injection of risk capital by the promoter and other equity investors into the concession company. In a successful project equity investors are rewarded with dividend income generated by profits. Debt finance comprises capital loaned by banks or similar lending institutions with provisions strictly controlling how the funds are utilized. Debt holders receive compensation for lending capital through interest payments made by the borrower over the term of the loan. Between the two, equity generally involves more risk since servicing the debt takes priority over dividend payments to equity investors. In other words, dividends can only be paid after debt claims have been met (2:282). Since an

equity investment involves more risk than a debt outlay, a promoter will need to provide a higher rate of return to equity shareholders as compared to debt issuers as compensation for carrying additional risk. This results in equity financing being more expensive for a promoter than debt financing. Therefore, the capital structure designed by a promoter must contain an optimal mix of debt and equity financing.

In obtaining venture capital through independent arrangements with financial institutions, project promoters are forced to pay a higher premium for borrowing funds than their public sector counterparts. In a publicly financed project to construct a roadway, for example, funds are obtainable through tax-exempt municipal bond issues which, according to the June 18, 1996, edition of the *Wall Street Journal*, yield approximately six percent. Whereas, companies floating private bond issues to finance a road would probably need to offer at least a 9-10% return due to inherently greater risks and lack of a tax shield (10:83). Therefore, private firms must be formidably efficient to overcome this handicap in building facilities at a price equal to or less than that which the public sector could construct projects.

Recognizing this impediment a congressional commission recommended broader access to the tax-exempt market for private sponsors of infrastructure projects in a 1993 report. However, political opposition existed, and no legislation evolved. Although this has not stopped private agencies from developing partnerships with the public sector to access the tax-exempt market. For example, in February 1993 First Boston Corporation arranged a \$1.1 billion issue of tax-exempt bonds for the Mid-State Toll Road project in

California that was sponsored by private developers and local government (10:83). This project will be discussed in detail in Chapter Five. Overall, these hybrid partnerships between the public and private sector have served to increase the capacity for executing infrastructure projects.

### 3.2 Optimal Capital Structure

The optimal capital structure of a project can be evaluated by examining the functions of debt and equity. Financing with debt offers an effective means to raise capital through value generated from the operating efficiencies of the financial markets. However, debt issuers often do not have a comprehensive understanding of the technical aspects of a proposed project. As such, they gain a level of comfort in seeing a certain degree of commitment from the promoter in the form of an equity investment. Since the promoter is bearing some of the financial risk, lenders feel more confident about the promoter's incentive to successfully complete the project. Financing with equity, therefore, decreases the burden placed on the project to service debt, thereby reducing the risk of repayment and signifying the promoter's belief in the economic viability of the project. Accordingly, lenders typically specify a debt-to-equity ratio that must be maintained in the capital structure designed by the promoter in order to be granted a loan. Also, from the standpoint of public agencies overseeing operations, a certain level of equity is necessary to provide the confidence that the promoter is serious about the long-term success of the project over the concession period. Governments typically favor proposals with threshold equity levels between 20% and 30% of the total financial package. Therefore, a high level of equity is usually desirable and required to form the cornerstone of a sound financial plan

for promoters to obtain financial commitments and earn the faith of both lenders and the project's sponsor (2:282, 287).

With respect to financial risk the ability of a promoter to establish an appropriate financial package is directly related to the market in which the project is being sponsored. There is a clear distinction between the financial instruments available in a developed, mature economy and those found in the economy of an emerging country. In a developed country, a significant amount of equity can be raised for BOT projects from investors in the domestic market. In developing countries, it is difficult to raise a substantial amount of equity because of inefficient or nonexistent capital markets; therefore, debt instruments play a far more significant role. In developing countries, more intervention from the government in terms of offering certain guarantees as previously discussed is necessary to maximize a project's chances of success (3:224).

### 3.3 Determining Cost of Capital

The overall feasibility of the financial package is evaluated by comparing the project's cost of development capital to estimated returns on investment. To determine the cost of investment capital, the weighted average cost of capital (WACC), which is a combination of the costs of each capital component, is determined (11:335). The cost of capital components refers to the rate of return required by investors. In most cases the capital components are debt and equity, and the cost of equity exceeds that of debt. To illustrate consider the example of a project that will be financed with 20% equity and 80% debt. Based on the level of risk determined for the project, equity investors require a 10% return

on their investment while the bond indenture specifies a 7.5% return. The weighted average cost of capital is calculated as follows:

$$WACC = 0.2(10\%) + 0.8(7.5\%) = 8\%$$

Therefore, the promoter will need to pay an 8% overall return to finance this project.

To determine a project's return on investment an estimate of the project's cash flows over the concession period is needed. Using discounted cash flow analysis procedures the internal rate of return (IRR) of the project can be determined from the project's anticipated cash flow schedule (11:395). For the project to be viable, the IRR must exceed the WACC. Concerning the illustration, an IRR greater than 8% is necessary for the project to economically viable.

Considering the elements involved in the financial analysis, many factors exist which effect the sustainability of a project. The technical certainty of a project or the uniqueness of a certain technical approach reduces risk and thus enhances the viability of a project. Intervention by the government in setting the concession period and controlling allowable tolls and tariffs assessed to users during the operating period impacts project cash flows. Uncertainties caused by inefficient or nonexistent financial markets affects the ability to raise funds. The level of equity maintained by a promoter communicates his expectations for the success of the project and influences the ability to raise additional financing. Also, competition directly affects the financial package as lower profit margins may be accepted

amidst threats posed by challenging firms. Overall, governments want the best situation for themselves and at the same time they want promoters to make sure that the project is financeable. Achieving a balanced financial package providing the monetary resources to implement a sound technical solution and offering acceptable user costs over the concession period requires special initiatives on the part of promoters. Ultimately, the success of the promoter will hinge on his ability to implement an innovative technical solution packaged with an attractive financing plan (9:310).

## **CHAPTER 4**

### **ELEMENTS OF PUBLIC/PRIVATE PARTNERSHIPS**

#### **4.1 Contract Tendering Process**

The tendering process for BOT-type contracts typically originates with governments soliciting proposals. Effort expended by the government in preparing the proposal has a significant impact on the risk borne by the contractor in submitting his package.

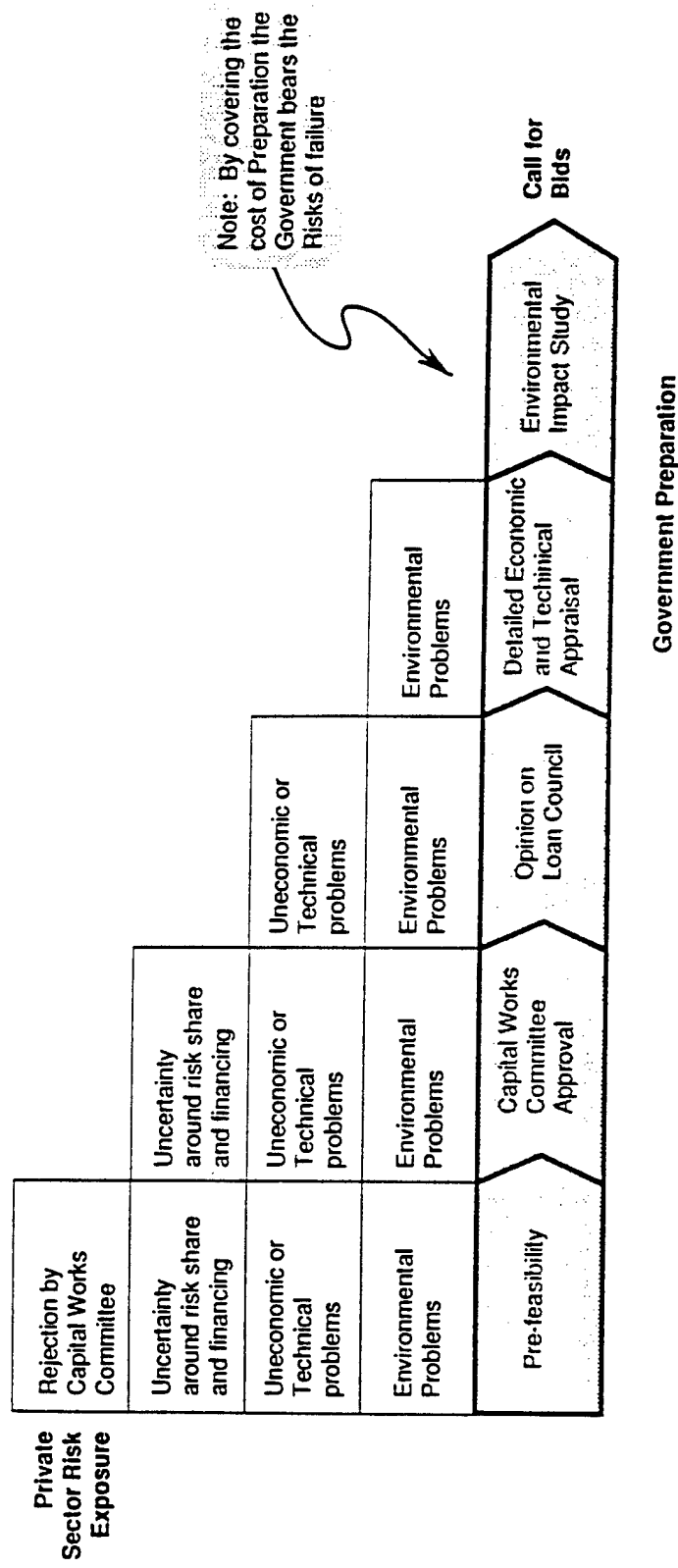
Governments may want to avoid too much detail in issuing a request for proposals to keep options open for the private sector. However, sufficient guidance and technical detail should be provided to establish the objectives of the project and to enable perspective bidders to provide a proposal which meets expectations. Figure 4.1 outlines the risk variances between public and private sectors in the proposal solicitation process.

Basically, the more effort governments expend prior to soliciting proposals the greater assurances prospective sponsors have about the project's validity. Therefore, to ensure competitive proposals are received, government agencies must establish their commitment to the project through undertaking comprehensive planning initiatives.

Once received, proposals are evaluated on several factors, the most notable of which are the technical solution and the financing package. A short list of sponsors may then be selected for further consideration or a single sponsor may be awarded the concession.

Once the winning concessionaire has been selected final negotiations between the sponsor and the government occur, and terms of a contract specific to the project are established (12:197).





**FIGURE 4.1 RISK VARIANCE IN BID PREPARATION (13:50)**

#### 4.2 Project Execution Phases

From the standpoint of private sponsors, a BOT project comprises five phases: preinvestment, preconstruction, construction, operation, and transfer. A project sponsor generates initial interest in pursuing a BOT concession and commits the resources necessary to begin the process. A sponsor, often a construction contractor seeking to generate new business, may be an individual, firm, or consortium. Roles assumed by a sponsor upon initiating interest in competing for a BOT tender include acting as a consultant in conducting the feasibility study and completing conceptual design during the preinvestment phase. If the sponsor feels the project is viable, a bid is prepared for the client offering the BOT concession. Once the government decides which bidder(s) will continue in the tendering process, the remaining sponsor(s) begin work to negotiate concession agreements as the project progresses through the preconstruction phase. Also during the preconstruction phase the sponsor attempts to raise equity and garner loans from financiers. When the government grants the concession to the winning sponsor, the project progresses through the construction phase. During this phase the sponsor oversees the building of the facility utilizing either the company's own resources or a contract with an outside entity for construction services. Offtake and supply agreements are also negotiated by the sponsor to encumber future users and gather supplies for the construction effort. Finally, during the operation phase, the sponsor is responsible for operating and maintaining the facility before it is returned to the government at the end of the concession period (3:223). Table 4.1 summarizes the phases through which a sponsor progresses in completing a BOT project.

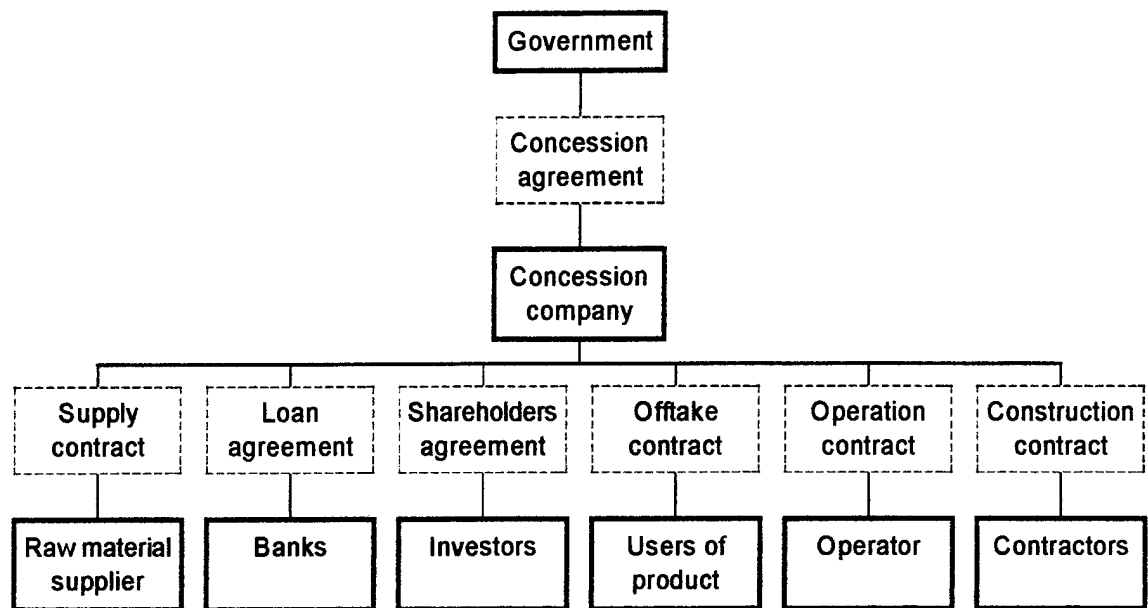
**TABLE 4.1 BOT PROJECT PHASES**

PHASE	SPONSOR ACTIVITY
Preinvestment	<ul style="list-style-type: none"><li>■ Conduct feasibility study</li><li>■ Complete conceptual design</li><li>■ Prepare proposal</li></ul>
Preconstruction	<ul style="list-style-type: none"><li>■ Negotiate concession agreement</li><li>■ Raise equity and procure loans</li><li>■ Complete design effort</li></ul>
Construction	<ul style="list-style-type: none"><li>■ Oversee construction activity (in-house or contract)</li><li>■ Negotiate offtake and supply agreements</li></ul>
Operation	<ul style="list-style-type: none"><li>■ Oversee operation and maintenance activity (in-house or contract)</li><li>■ Amortize debt and distribute profits to equity investors</li></ul>
Transfer	<ul style="list-style-type: none"><li>■ Release operational facility to government at no cost</li></ul>

(3:223)

#### 4.3 Concession Companies

In practice, a special concession company is usually formed by project sponsors in the process of competing for a BOT tender. Figure 4.2 depicts the relationships between the concession company and the various other parties associated with the implementation of a BOT contract. The concession company is usually established in the country soliciting a project and may comprise a joint venture of two, three, or more parties to act as sponsors. This arrangement is partly because the scale of the projects is such that the risks must be shared by several organizations, and also because a wide range of expertise is required beyond what is usually found in a single organization. Additionally, legal council and other external professional advisors become involved in the establishment of the concession company and thereby contribute to the complexity of the organization (4:61).



**FIGURE 4.2 BOT CORPORATE STRUCTURE (3:223)**

Other significant factors support the need to develop such complex concession companies as well. First, the cost of promoting projects is disproportionately high. The extensive scope of BOT projects contributes to high promoting costs. Moreover, unlike traditional arrangements, the concession company has to finance design and engineering costs and incorporate these outlays in their financial analysis. Therefore, tendering costs for privately financed projects are several times larger than for an equivalent traditional contract and necessitate the involvement of a company strong enough to bear this financial burden. Secondly, since privately financed infrastructure projects assume greater construction risk than traditional arrangements, projects are normally financed on a non-recourse basis. This type of financing means that financiers, not having recourse to the balance sheets of the concession company, will insist on solid, interlocking contracting arrangements (4:61). As such, complex contractual agreements encumbering the sponsors

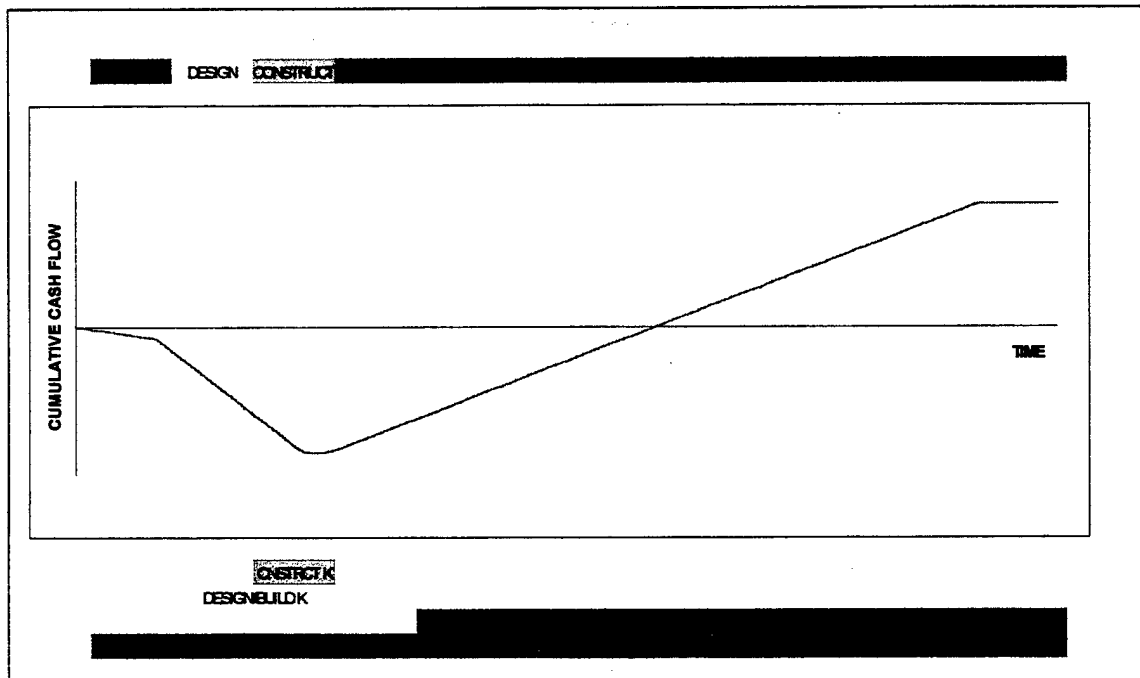
comprising a concession company are implemented to equitably distribute project risks.

This further propagates the size and inextricability of organizations bound in joint ventures to create a concession company.

#### 4.4 Comparison of Contract Types

As discussed above the concession company undertakes to perform or procure a wide range of functions in executing a BOT project. The effort involved in managing a BOT project is far beyond that which is required in operating under the more usual types of contracts used for construction. For example, under a traditional construction contract, a sponsor performs mainly as a constructor undertaking only limited detail design in building a facility. With a design-and-build contract, the sponsor provides all of the detail design and perhaps some conceptual design as well as construction services. Once the facility is complete, the client may contract for operation and maintenance services. However, with all of these more traditional arrangements the financing and the bulk of the operation rests with the client (3:224).

Figure 4.3 illustrates the relationships between the various types of contracts over the life cycle of a project. The figure depicts a typical project cash flow for an infrastructure project. The cash flow curve is based on total costs and revenue from either the client's or the concessionaire's perspective. The different functions to be performed, such as appraisal, design, construction, and operation are indicated above the curve as discrete



**FIGURE 4.3 CUMULATIVE PROJECT CASH FLOW (3:224)**

activities; however, in practice there will be considerable overlaps between them. Below the curve the time scales for the most common types of contract arrangements are shown in relation to that for a typical BOT project. The figure communicates several key ideas. Most notably, the significant commitment required by the sponsor over the lifetime of the project is shown. Cash flow risk is borne exclusively by the sponsor. The initial cash commitment provided by the client under the traditional contracting approaches is now offered by the BOT sponsor. Also, the operating expenses typically paid by the client are now the responsibility of the sponsor. Therefore, the sponsor must be concerned with costs and revenues throughout the lifetime of the project.

Figure 4.3 also indicates the flexibility the sponsor has in executing a project. Depending on the circumstances, the concession company may utilize one of the more

traditional contracting arrangements to complete a certain phase of the project. For example, to complete construction of a facility, the concession company can enter into a fixed price or design/build contract with a contractor. Moreover, contracting schemes are inherently more efficient for private sponsors as they are not as strictly bound by regulatory processes as are governments (3:224). In summary, the greater flexibility enjoyed by project promoters in having the ability to choose between several methods in completing a project illuminates the allocative efficiencies which can be gained in utilizing the BOT model.

## **CHAPTER 5**

### **COMPARATIVE STUDY OF BOT CONTRACTS**

#### **5.1 Introduction**

BOT-type contracts have been implemented internationally to execute several diverse projects. Existing circumstances such as the state of development of the host country, the attitude of public and private sectors towards initiating joint ventures, and the condition of the economy contribute to the development of differing contractual parameters. In this chapter contractual aspects of actual BOT projects will be evaluated to provide insight into how the responsibilities were delineated, how project financing was obtained, and how risks were distributed among the parties.

#### **5.2 United States' Experience**

The implementation of BOT projects in the United States is especially evident in road construction. Reinforcing the common impetus driving BOT projects, the scarcity of financial resources at the federal, state, and local levels of government has led to the exploration of alternative ways of providing needed highway capacity. Limited revenue sources coupled with the increased demand for highway capacity has forced governments to consider the possibility of privately financed highways. Currently, projects undertaken in Virginia and California represent early attempts of the United States to implement BOT contracting schemes.



### 5.2.1 Virginia Toll Road

The construction of the Dulles Greenway linking Dulles International Airport and Leesburg, Virginia, marks the implementation of the United States' first privately financed project (14:49). Opened on September 30, 1995, the \$175 million toll road is a four-lane divided highway spanning 14.1 miles of Virginia's countryside. The road is viewed as a catalyst in supporting the continued development of the Washington, D.C., metropolitan area west of the city's beltway.

The ability to use the private sector in developing the project was made possible by the state legislature passing the Virginia Highway Corporation Act in 1988, enabling a private concern to build, own, and operate a toll road for profit (14:49). The legislation mandates that sponsoring corporations must be chartered by the State of Virginia and will be subject to regulation as a public utility. As such, the State Corporation Commission regulates the tolls that are to be charged during the concession period. Also, the charter provides that highways be constructed according to the standards used by the Virginia Department of Transportation. To assure compliance with the construction standards, state highway engineers are allowed to perform continuous inspection and testing of the work in progress (15:162).

The actual execution of the Dulles Greenway project was hampered by a turbulent beginning. The original investment group, the Toll Road Corporation of Virginia, faced many hurdles after they submitted their proposal for the project in 1989. The project was slowed by the departure of the original engineer and the original contractor, who also held

an equity stake in the investment. The project was delayed further by an economic recession which caused the slowdown of development in the Washington, D.C. area and fueled skepticism on the part of investors. Also, legal issues contributed to deterring progress. A significant barrier was posed by the lack of power of eminent domain held by the sponsor. This necessitated complicated and lengthy negotiations to acquire more than 700 acres of right-of-way from private landowners and the Dulles Airport Authority. Taken together, these factors contributed to delaying the execution of the project by five years (14:49).

Persistence eventually was rewarded, however. With a new designer, Dewberry & Davis, and constructor, Brown and Root, Inc., in place and the economy in northern Virginia experiencing a recovery, the project began to attract the interest of investors. Through the summer of 1993, the reformed ownership group known as the Toll Road Investors Partnership II (TRIP II), finalized a \$340 million debt-equity financing package with no state guarantees. A consortium of investors, primarily insurance companies, committed \$258 million in long term financing, with an average maturity of about 30 years. The remainder of the required financing for the project was from a group of banks and from equity contributed by the partners. The problem of obtaining the 700 acres of land for the right-of-way was also overcome as most of the landowners readily agreed to sell or donate the land with the expectation that development would substantially increase the value of their remaining holdings (15:162).

From the state's perspective the project's risk appears to have been assumed entirely by the private concerns. With private financing and no government guarantees, there seems little likelihood that financial risks could be shifted to the government. Concerning the perceived risk to the public interest of the owner's extracting monopoly profits, the regulation imposed by the State Corporation Commission negates this possibility. Specifically, the firm has agreed to limit its tolls to amounts required to provide a rate of return of 14 percent on its invested capital for the first six years. Proposals to increase tolls beyond the six year mark are subject to the commission's approval. Overall, the continued smooth execution of the project should support future private infrastructure development initiatives in the United States.

#### 5.2.2 Private Highway Development in California

Based on an unprecedented reliance people in the State of California place on their ability to travel via automobile, an ever-growing demand exists for expansion of the state highway system. As has been a recurring theme, voter-enacted limits on the growth of government revenues has severely limited the ability of state and local governments to finance highway construction projects. This conflict between the demand for increased highway capacity and the limits on governments' ability to finance that construction has led to the exploration of privately financed alternatives (15:163).

California Assembly Bill 680 (AB680) enacted in 1989 enables the California Department of Transportation (Caltrans) to enter into agreements with private companies for the development and operation of highway facilities. Under the legislation, no state

funds can be used to support development. Tolls are to be set by the private sponsors and may be collected over a 35 year concession period. Tolls rates are to be limited based on government imposed ceilings on total return negotiated for individual contracts. The ceilings vary depending on the perceived level of risk involved with each project. Moreover, projects are subject to the same design and construction oversight as a comparable road built with public funds and must be maintained to Caltrans standards. Provisions to protect the private sector include the imposition of damages on the state if it acts to reduce the project's economic value, such as by building competing roads nearby, and the establishment of strict deadlines for the state to review plans.

In soliciting proposals for demonstration projects under AB680, Caltrans utilized a two-stage screening and selection process. Under criteria established for selecting the winning proposals, Caltrans evaluated offerings based on technical and procedural elements. However, before a proposal could be selected for implementation, approval of the financial plan was required from an independent party. Appendix A contains pertinent excerpts from the *Guidelines for Conceptual Project Proposals* issued by Caltrans detailing the selection process. Ultimately, four proposals were selected for development under the enabling legislation amounting to approximately \$3 billion for building 550 lane miles of new primary roads (16:2). By all accounts, the projects chosen were the most possible to build and the most financeable from tolls and real estate development revenues. Also, the groups seeking to develop and operate the projects included top experts in each of the requisite disciplines and possessed sufficient financial staying power. Carl Williams, assistant Director of Caltrans summarized the unique characteristics of the winning

projects by saying: "We took the cream of the cream. These are the projects that are likeliest to produce almost instant high volumes of traffic or where the financial support from the landowners and communities is sufficient to make these deals financeable" (16:2). Table 5.1 summarizes the four projects.

**TABLE 5.1 CALIFORNIA PRIVATE TOLL ROAD PROJECTS**

<b>STATE ROUTE 91 EXPRESS LANES</b>	
<b>DESCRIPTION</b>	Four express lanes will be added to the median strip of a 10 mile section of the existing SR 91 in Orange and Riverside Counties. Tolls will be collected electronically and will vary based on the time of day and the number of occupants of a vehicle.
<b>PURPOSE</b>	The toll road will relieve congestion on the highway. SR 91 carried about 188,000 vehicles per day in 1993 and is projected to handle 320,000 by 2010. Traffic forecasts for the express lanes estimate it can capture 30,000 vehicles per day upon opening and 40,000 by 2010.
<b>COST</b>	Estimated between \$100 million and \$110 million.
<b>SPONSORS</b>	California Private Transportation Corp. (CPTC), a subsidiary of CRSS, Inc.
<b>CONSULTANTS</b>	Autostrade International Holding SA (finance, toll operations); Citibank NA (project finance); Howard Needles Tammen & Bergendoff (engineering, design, operations support); Granite Construction Co. (construction); The John Meyer Co. (project finance); Woodward-Clyde Consultants (environmental, geotechnical); McDermott, Will & Emery (legal counsel); Putnam, Hayes & Bartlett (economic, regulatory analysis); Wilbur Smith Associates (traffic-revenue studies); Church Engineering (engineering, design); Carpenter & Associates (lobbyist); Wedin Enterprises (community relations); Cordoba Corp. (land-use planning).
<b>CURRENT STATUS</b>	The facility was fully operational as of December 1995.

**TABLE 5.1 - continued**

<b>SANTA ANA VIADUCT EXPRESSWAY</b>	
<b>DESCRIPTION</b>	An 11 mile, four-lane elevated toll road connecting the existing SR 57 with I-405 and SR 73 in Orange County will be constructed within the Santa Ana River channel. To minimize land acquisition problems, the road will be built on a platform elevated over a normally dry river bed. Tolls collected will vary by time of day.
<b>PURPOSE</b>	The project will relieve congestion on heavily traveled I-5 and SR 55 and close the gap in Orange County's regional transportation system by completing a north-south central corridor.
<b>COST</b>	Estimated at \$750 million.
<b>SPONSORS</b>	National Transportation Authority (NTA), a partnership of the Perot Group (financial and project management, toll operator); Greiner Engineering, Inc. (design, construction administration, EIS, ROW and programs for long-term management, maintenance, operations); Kiewit Pacific Co. (specifications, estimates, fast-track contractual arrangements); Amtech Systems Corp. (electronic toll collection); The First Boston Corp. (project financing); Putnam, Hayes, and Bartlett, Inc. (partially at risk for toll rate studies).
<b>CONSULTANTS</b>	Traffic Consultants, Inc. (planning, management); URS/Coverdale and Colpitts (traffic studies); Robert G. Neely (toll operations); Nossaman, Guthner, Knox & Elliott (legal services).
<b>CURRENT STATUS</b>	Project has been delayed in lengthy approval processes. No target completion date available.

**TABLE 5.1 - continued**

<b>SAN DIEGO EXPRESSWAY</b>	
<b>DESCRIPTION</b>	An 11 mile four-lane extension of the San Diego Expressway (SR 125) will be constructed in a sparsely populated area in eastern San Diego County from SR 54 to Otay Mesa near the Mexican border.
<b>PURPOSE</b>	I-5 and I-805, which parallel the proposed toll route, are at or near capacity. The extension will serve growing residential communities along this corridor and handle the growing truck traffic generated by manufacturing facilities in Mexico immediately to the south.
<b>COST</b>	Estimated at \$350 million.
<b>SPONSORS</b>	California Transportation Ventures, Inc. (CTV), owned equally by Parsons Brinckerhoff Development Group, Inc. (planning, design, permits, construction administration); Fluor Daniel, Inc. (construction management); Prudential Bache Capital Funding, Inc. (venture capital, project finance); and Transroute, a French toll road company, (operations, toll collection).
<b>CONSULTANTS</b>	McDermott, Will & Emery (legal services).
<b>CURRENT STATUS</b>	The project is nearing completion of environmental review procedures, and construction is scheduled to begin in late 1997.



**TABLE 5.1 - continued**

<b>MID-STATE TOLLWAY</b>	
<b>DESCRIPTION</b>	An 8.5 mile beltway around the San Francisco Bay area will be constructed beginning at the existing I-680 at the southern end of San Francisco Bay and leading to I-80 to the north.
<b>PURPOSE</b>	The road would relieve some of the congestion on the east side of San Francisco Bay, facilitate access to Sacramento, and open a largely agricultural area to development.
<b>COST</b>	Estimated at \$1.2 billion.
<b>SPONSORS</b>	California Toll Road Co. (CRTC), which includes Parsons Municipal Services, Inc. (project management); DeLeuw Cather & Co. and Ralph M. Parsons Co. (design, permits, construction management); Cofiroute, a French toll-road company (operation, toll collection); Banque Nationale de Paris, WESTPAC Banking Corp., Goldman, Sachs & Co. (venture capital and project finance).
<b>CONSULTANTS</b>	Kiewit Pacific Co. (cost estimates); Corollo Engineering (engineering, design); O'Melveny & Meyers (legal services).
<b>CURRENT STATUS</b>	Project has been delayed in lengthy approval processes. No target completion date available.
(15:164), (16:4-7), (17:70)	

With respect to these four projects, distinct differences exist in the level of risk involved. Two of the projects, the San Diego Expressway and the Mid-State Toll Road, are similar to the Dulles Greenway in that their success depends, in part, on the development that is anticipated to occur along the highway right of way. Sponsors must utilize this growth potential to compel present owners to donate or sell at reasonable prices the land required for the right of way. In effectively doing so sponsors will keep the cost of development under control. Due to this reliance on future development, the risk associated with these toll roads is greater than that for the other two projects which are being constructed in already populated areas. To compensate for increased risk, the government controlled ceiling on project returns is greater for the projects being constructed in the undeveloped areas. Specifically, the least risky SR 91 project has a ceiling of 17% annually while the most risky Mid-State Tollway project has one of 21.25% (17:69).

The incorporation of guarantees by the state marks an important effort to balance the risks of the projects. All projects are structured to reduce the liability of the sponsors by having the facilities conveyed to the state upon completion of construction. Under the enabling legislation the state will lease the facility to the sponsors for the 35 year franchise period to reduce the liability exposure of the private sector. Also, the financial position of the sponsors is helped by the state in that the demonstration projects will not be subject to property taxes (18). Actions specific to each project have also been undertaken by the government in an effort to control risk. Most notably, the government has taken special initiatives to support the Santa Ana Viaduct Expressway and the SR 91 Express Lane

projects. Since the construction for these projects is in a developed area, land acquisition is comparatively more difficult. In a highly populated area land is commonly held in relatively small, more expensive parcels. This situation makes it exceedingly difficult and costly for sponsors to assemble the parcels required for a highway right of way. As such, government assistance has enabled promoters to overcome this barrier by donating land already owned by the public. The Santa Ana Expressway involved the donation of "air rights" to permit building over the dry Santa Ana River channel while the SR 91 Expressway involved the concession of an existing public highway right of way (15:165).

Overall, the California toll road projects continue to progress albeit at a slow pace. Philip Warriner of the Caltrans Office of Public/Private Partnerships recently related the status of the four projects in a phone conversation with the author. According to Mr. Warriner, the SR 91 Express Lanes project is fully operational as of December 1995. Appendix B contains excerpts from the *Amended and Restated Development Franchise Agreement* between Caltrans and California Private Transportation Company, L.P., pursuant to the execution of this project. The San Diego Expressway SR 125 project is nearing completion of extensive environmental reviews and is planned to be under construction by the end of 1997. The remaining two projects have been beset by political difficulties that threaten to suspend the projects indefinitely. Overall, financial, political, legal, and environmental issues have constrained the maturation of the projects. Progress is necessarily slow as the balance of risk and reward between the public and private sector in the execution of franchise for profit projects is carefully examined. The success of such projects in California will greatly influence future initiatives with BOT contracting

arrangements in the United States. As quoted by California Transportation Ventures (CTV) in its proposal for SR 125: "Many in the transportation industry are looking to the success or failure of the California experiment as the principal indicator of the future direction of transportation privatization" (16:3).

### 5.3 International Experience

Unlike the United States, other nations have freely accepted the notion that any facility or service capable of generating cash-flow and profit is capable of being privatized. Several projects have been initiated internationally under BOT contract arrangements. The six projects to be discussed in this section are the first to be privately financed under BOT schemes and are either under construction or already in operation (8:108). The projects to be considered include Australia's \$550 million Sydney Harbour tunnel, the United Kingdom's \$310 million Queen Elizabeth II Bridge, United Kingdom/France's \$13 billion Channel Tunnel, China's \$517 million Shajiao power plant in Guandong province, Malaysia's \$1.8 billion North-South expressway, and Thailand's \$880 million Bangkok Second Stage expressway.

Of the six projects considered three are in developed countries and three are in developing countries. Differing circumstances necessitated project sponsors assuming diversified responsibilities and undertaking multiple strategies in the structuring of proposals. Table 5.2 compares key features of the six projects. Government incentives were also utilized to various degrees in these projects in an effort to balance associated financial, technical, and political risk. Although the governments did not guarantee loans,

they provided other forms of guarantees to protect the sponsors and lenders from such risks. Because of the magnitude and complexity of BOT schemes, these indirect guarantees were necessary to ensure the right political and commercial environments in which to advance the projects. Table 5.3 summarizes the initiatives undertaken by government in implementing these projects. The following sections detail poignant aspects of these projects as originally documented by R. L. K. Tiong in a journal article appearing in the January 1990 edition of the *Journal of Management in Engineering* (8:107-122).

**TABLE 5.2**  
**COMPARATIVE FEATURES OF INTERNATIONAL BOT PROJECTS**

	Developed Nation			Developing Nation		
	Australia	United Kingdom	United Kingdom/ France	China	Malaysia	Thailand
Project	Sydney Harbour Tunnel	Queen Elizabeth II Bridge	Channel Tunnel	Shajio Power Plant	North-South Expressway	Bangkok Second Stage Expressway
Cost	\$550 million	\$310 million	\$9.2 billion	\$517 million	\$1.8 billion	\$880 million
Concession period	30 year <sup>a</sup> (1992-2022)	20 year maximum (1988-2008)	55 year (1987-2042)	10 year (1987-1997)	30 year (1988-2018)	30 year (1988-2018)
Equity (sponsors)	\$11 million	Nominal (\$1,800)	\$80 million	\$17 million	\$9 million	\$170 million
Equity (shareholders)	\$18 million	\$0	\$1.72 billion	\$0	\$180 million	\$0
Equity:debt	5:95	0:100	20:80	3:97	10:90	20:80
Rate of return	6% inflation indexed	N/A	10-20%	N/A	12-17%	10-20%

<sup>a</sup>30 year concession starts after project completion.

(8:108)

**TABLE 5.3**  
**COMPARISON OF GOVERNMENT INCENTIVES**  
**FOR INTERNATIONAL BOT PROJECTS**

Government guarantees/incentives	Sydney Harbour Tunnel	Queen Elizabeth II Bridge	Channel Tunnel	Shajiao Power Plant	Malaysian Expressway	Bangkok Expressway
Support loans	Yes	No	No	No	Yes	No
Minimum operating income	Yes	No	No	Yes	Yes	No
Concession to operate existing facility	Yes	Yes	No	No	Yes	Yes (Tolls shared)
Commercial freedom	No	No	Yes	No	No	Yes (Partial)
Foreign exchange guarantee	No	No	No	Yes	Yes	No
Interest rate guarantee	No	No	No	No	Yes	No
"No second facility" guarantee	No	No	Yes	No	No	No

(8:109)

### 5.3.1 Sydney Harbour Tunnel

The Sydney Harbour tunnel project was won by the Sydney Harbour Tunnel Company, which is a joint venture by two construction companies, Australia's Transfield and Japan's Kumagai Gumi. The tunnel, 2.3 kilometers long linking Sydney to the North Shore by a submerged section, opened on August 31, 1992. The 30-year concession period began at this time.

Guarantees and concessions structured around this project include the provision of an interest-free loan of \$125 million by the government to cover the preliminary construction costs of the tunnel. The loan, amounting to approximately 23% of the total project costs, is to be repaid over a 30 year period. The government also guaranteed a minimum traffic

toll income to the project promoters. This action protects the company during the operational phase by providing compensation for unanticipated increases in electricity tariff, wages, and unforeseen cost escalation. Another government concession granted the project sponsors rights to operate the existing Sydney bridge in addition to the tunnel. The fees on both the bridge and the tunnel were originally established at \$1.25 per car based on 1986 prices. This toll will increase in \$0.65 increments to keep pace with inflation. In exchange for these government concessions, the Sydney Harbour Tunnel Company assumed risks for cost and time overruns by offering a turnkey, lump sum construction contract and by providing a performance bond of \$23 million. The government would have been able to draw the bonds should the company have abandoned work or if there was more than an 18-month time overrun. Also, the government does maintain the ability to limit the company's operating profit under terms established in the contract.

Financing for this project has been generated through a combination of debt and equity raised between the sponsors, government, and private investors. The cornerstone of the financing arrangement is \$279 million raised through the issuing of 30-year tunnel bonds. This innovative, all-Australian financing technique reduced fundraising costs and provided attractive features to investors. These features include: (1) An extended maturity of 30 years, longer than the usual maturity of 10 or 20 years; (2) repayment of principal with quarterly interest installments; and (3) yield of about 6%, indexed to inflation.

### 5.3.2 Queen Elizabeth II Bridge

The Queen Elizabeth II Bridge is the third River Thames crossing at Dartford, joining the London M25 orbital motorway. The project company is a consortium composed of several banks and Britain's Trafalgar House group comprising the Dartford River Crossing Limited (DRC). The 2871 meter bridge consists of a 812 meter cable stayed bridge flanked by viaduct approach spans of 1052 meters and 1008 meters. The main span was closed over the Thames on June 11, 1991, and the contract completed on schedule in September 1991 almost five years from the conditional award of the concession.

An interesting aspect of this project involves the concession obtained by the sponsor to operate existing tunnels in addition to the new bridge. In its proposal, the winning sponsor company offered to purchase the two existing toll tunnels at a cost of \$80 million. With this purchase the company would earn toll income from the start of the concession, thereby reducing the initial financing requirements and allowing immediate payments to be made to investors. Tolls collected from tunnel operations are expected to produce approximately \$120 million in revenue during the construction period, nearly 40% of the total investment.

The privatization of this project served to eliminate construction risks typically associated with contracts between the public and private sector. In arranging to build the bridge on a turnkey contract, Dartford River Crossing subcontracted with its subsidiaries on a firm price basis subject to increases relating to inflation and design changes. With this close relationship almost all normally accepted risks were eliminated, including the



unforeseen ground condition risk of placing bridge piers on the river bed, a risk not normally taken by contractors. To further guard against construction risks, the project company arranged \$36 million contingent bank loans in its package to meet overrun financing and working capital requirements.

The financing of the Dartford bridge was similar to the Sydney tunnel in that all funds were raised locally. However, unlike the Sydney tunnel project, virtually no equity was involved in the financing package. The project company was capitalized with a purely nominal equity of \$1,800. Financing for the project was through \$121 million of subordinated loan stock and a \$185 million syndicated bank loan. The key to the project's success was that while there was no equity risk borne by the sponsors, there was also no opportunity for equity profit. Under this arrangement, the concession could revert to the government earlier once sufficient surpluses have accrued to meet the costs of all debt.

### 5.3.3 Channel Tunnel

The 50 kilometer Channel Tunnel consists of two 7.3 meter diameter rail tunnels and a 4.5 meter diameter service tunnel linking Great Britain and France. The sponsoring company, Eurotunnel, consists of Britain's Channel Tunnel group, a consortium of British banks and contractors, and France's France-Manche, a consortium of French banks and contractors. Having begun in 1987, the project came to fruition in the Spring of 1994.

Under the concession Eurotunnel was given the guarantee of full commercial freedom, including the ability to determine its tariffs. Half of its revenues are to be

generated through agreements with the state railways using the tunnel to link London with the high-speed train network now under development in Europe. Other revenues are to arise from shuttling commercial vehicles through the tunnels on high-speed trains.

Similar to the Dartford River Crossing consortium, Eurotunnel assumed full construction risks for the Channel Tunnel project and maintained a reserve capacity of \$1.8 billion for cost overruns. Half of the \$4.9 billion onshore construction work is on a fixed price contract, while the tunnel itself is on target cost basis. Under the target cost arrangement, Eurotunnel will pay the contractors actual costs plus a fixed fee of 12.36% of the target value which is estimated to be \$250 million. Also, the contractors will receive half of all savings if the tunnels are completed below target price. In addition, the contracts are subject to price adjustments due to unforeseen ground conditions, variations to specifications, and inflation.

Financing requirements for the Channel Tunnel were subject to three conditions imposed by the governments: (1) There would be no government guarantees on the loans; (2) the project is to be 100% privately financed on a limited recourse basis whereby the sponsors are to be paid and the debts serviced by the revenues from the completed project; and (3) the group must raise 20% in equity which amounts to \$1.72 billion in cash. Totalling \$9.2 billion originally with later documents reporting a \$13 billion cost, financing for this undertaking makes it one of the largest infrastructure projects to ever be privately managed. A \$7.4 billion loan was raised from 209 international banks, the biggest private

sector syndication in history. The majority of equity was successfully garnered in four issues in British pounds and French francs.

#### 5.3.4 Shajiao Power Plant

The concession for the 2 X 350-MW coal-fired power plant at Shajiao, China, was signed in 1984. The project was constructed, tested, commissioned, and in full operation within a period of 33 months. In executing the project, Hopewell utilized a fixed price, turnkey contract in establishing sole responsibility with the company for its completion. Hopewell negotiated the turnkey contract with a consortium of equipment suppliers and contractors on a fixed price, fixed schedule, and mutually agreed quality terms. This arrangement served to control construction risks. Overall, due to good engineering design, efficient site supervision, and a dedicated management team, the project was completed six months ahead of schedule.

Government actions which contributed to the accelerated pace of this project included the arrangement of an "emergency loan facility" to provide funds to the sponsors in the case of an unexpected or uncontrollable event. To support profitable operations the government agreed to purchase a minimum quantity of electricity on a "take-and-pay" basis and also agreed to pay the sponsoring company a fixed price per kilowatt-hour over the concession period. On the sponsor's end Hopewell guaranteed the Chinese government a fixed electricity price per kilowatt-hour for 10 years at a level that was equal to or lower than the price the Chinese were paying to import power from Hong Kong.

Since the Chinese economy could not support the project, special arrangements were made for offshore project financing. Hopewell raised \$500 million offshore through syndicated bank loans involving 46 international institutions. Hopewell also agreed to invest \$17 million equity in the project. In addition, it negotiated deferred credits from the construction consortium, allowing for repayments over a 7.5 year period thereby easing the cash flow of the company. To manage the foreign exchange risk in serving the debt, Hopewell further negotiated for half of the electricity price to be paid in foreign currency. The other half was agreed to be paid in the nonconvertible Chinese Renminbi and used to pay for Chinese coal.

#### 5.3.5 Malaysian Toll Road

The Malaysian toll road project was granted to its sponsor under concession in 1988 and was anticipated to be completed in 1995. The roadway forms part of the 800-km North-South expressway from the Thai border to Singapore. The project company, United Engineers of Malaysia, formed a new company called PLUS to finance, design, construct, and operate the expressway.

To support the project the Malaysian government allocated a \$235 million loan for construction costs. This amounted to about 13% of the project's total cost. The loan is payable over 25 years, including a 15-year grace period and a fixed interest rate of 8% per annum. The government further underwrote the project in agreeing to provide additional finance to PLUS should the company experience cash-flow problems due to a drop in traffic volume in the first 17 years of operation. In addition, PLUS was allowed to

operate 309 kilometers of the existing expressway and collect toll revenues without having to purchase the facility. Furthermore, PLUS was given an interest rate guarantee by the government which allowed for reimbursement should the interest rates increase by more than 20%.

Financing for the Malaysian expressway was arranged in the conventional debt and equity structure. Outside of the support loan of \$235 million, the project company was responsible for raising \$900 million in offshore funds in Hong Kong, Singapore, and London on a limited recourse to the government. To ease the project's cash flows the sponsors paid its subcontractors 87% of the contract values in cash and 13% in equity shares in the project company. The equity shares were only able to be sold at the end of the construction period. This effectively passed the bulk of the equity risk to the subcontractors. To service debt, toll rates were mutually agreed upon by the government and the sponsors to rise to \$0.10 per car in 1995 and increase beyond that point in conjunction with the country's consumer price index.

#### 5.3.6 Bangkok Second Stage Expressway

The 38 kilometer expressway comprises two routes and connects to the existing First Stage expressway to make a continuous ring of expressways in Central Bangkok. With the concession signed in 1988, the expressway will be constructed by Bangkok Expressway, a consortium of foreign and Thai contractors. As of late 1993, approximately 50% of the work had been completed.

Guarantees associated with this project include the arrangement where toll revenues from the existing First Stage expressway are to be shared between the government and sponsors. Also, partial agreement was given to the consortium to determine suitable toll rates and carry out any development within the right of way of the project, subject to appropriate conditions. In 1988 the toll rate on the Bangkok Second Stage expressway was established by project sponsors to be \$1.20 per car. The rate is subject to revision every five years to meet inflation, but the increase cannot be higher than \$0.80 for the first 15 years of operation. The sponsor also agreed to share the toll revenues collected from both expressways with the government at the ratios of 60:40, 50:50, and 40:60 for each of the nine-year intervals of the concession period after construction.

The financial structure of the Bangkok Expressway project is based on a debt-to-equity ratio of 80:20. Though the Thai government did not give any financial subsidy, it agreed to participate in 49% of the equity which comprises about \$80 million. Unlike the other projects discussed, the sponsor company was responsible for the land acquisition cost of \$670 million which was an extra burden to be evaluated in the project's cash flow analysis. Advance payment for land costs was made by the government, but the sponsor company must pay back the principal plus interest from the 15<sup>th</sup> to the 30<sup>th</sup> year of the concession period.

#### 5.4 Conclusion

Documents published after Tiong's original 1990 article indicate that five of these six projects are in steady operation while one remains under construction by experienced

contractors. Although the projects were dramatically different in scope, showed different organization in the structuring of the sponsor companies, invoked several methods of raising finance, and involved unequal levels of risk, there was an appropriate level of support from the host governments to improve the probability of success. Overall, Tiong's research on international projects suggests that the BOT concept, which brings together the government, sponsors, lenders, investors, and contractors with one common interest, is a viable means of implementing infrastructure projects.

## CHAPTER 6

### PROBLEMS IN IMPLEMENTING BOT CONTRACTS

#### 6.1 Problem Sources

Since this type of contracting procedure has resurfaced only recently, many obstacles hinder the efficient operation of the tendering process. At this time the basis of project selection and procedures developed in the public sector for the management of bid preparation and the tender process seem relatively poorly developed. The broader role envisioned for the private sector in developing more complex proposals involving project finance, operation management, and innovation requires additional skills from the public sector to identify appropriate opportunities for private sector involvement, to identify marginal advantages between proposals, as well as to develop skills in financial matters such as project analysis, finance structuring, and risk analysis. Existing skill deficiencies and lack of experience in public agencies in relation to these areas limits the extent to which allocative efficiency gains may be achieved from private sector involvement (5:19-20). Therefore, government itself stands as the largest obstacle inhibiting the efficient execution of BOT-type contracts, and having acknowledged the need for partnership, must now reconcile the process of choosing its private sector partner with the need for public sector accountability (4:60).

Overtly, various legislative and procedural limitations in countries retard the progression of the BOT tendering process. Because the projects are usually not covered under an existing political and legal framework, lengthy and extensive negotiations with the host government are normal. The lack of precedents means that both the government



and the sponsors are on the learning curve in negotiating over the proposal details. Since there are no proper guidelines in the allocation of risks between the government and the concession company, searching for the right balance poses difficulties in negotiations. This is one of the reasons for governments' frequent indecision in awarding concessions. As such, sponsors can expect delays and protracted negotiations of up to several years before the award. Also, since the development of BOT processes breaks new ground, opposition inevitably arises. Such opposition stems from political groups striving to champion the public interest or from competing contractors wishing not to be excluded from the project (19:219). Finally, because of the lack of sound and decisive policy, evidence suggests that the principal decision factor for implementing projects is the availability of funding rather than the fundamental need for infrastructure or the economic attractiveness of the proposal (5:19). Considering these limitations, government has an important role to play through improving and facilitating statutory and administrative arrangements while maintaining competitive disciplines between promoters in managing the tender process.

## 6.2 Government's Role in Effective Public/Private Contracting

In establishing procedures for the tender of BOT-type contracts, government must implement efficient administrative processes and communicate a clear policy concerning the basis of competition. With regard to administrative procedures, bureaucratic approval mechanisms and extensive public consultation requirements must be controlled as they can lead to significant delay, can produce major changes to specifications, and in some cases can lead to project abandonment. Without limiting these factors the private sector may be

exposed to significant risks, including excessive planning costs which add to overall project costs and may even result in project insolvency (5:19).

Concerning competition, gains in productive efficiency from private sector involvement are expected when bids are obtained from a sufficient number of alternative promoters in accordance with specifications provided by the government. Initially, the number of competitive offers evaluated by public agencies must be carefully determined. If the public sector approves too many bids for tender, competitive efficiencies may be lost as the high costs involved in preparing a proposal coupled with the low likelihood of winning a concession may deter bidders. When bidders are short listed only to find themselves in competition with a large number of others, withdrawals are more likely. Conversely, the public sector fears technically sound and competitive proposals will be lost by restricting the number of bids. However, research suggests that, given appropriate skills and incentives to bear risk with the public sector, the benefits of competition can be achieved from as little as three or four well chosen tenders (5:21). The timing of competitive comparison in the process is significant as well. If the competition is carried out early in the development of the project, there is very little hard information available and a meaningful financial offer is impossible. If the competition is conducted late, most of the important parameters will already have been fixed, and the efficiency gains expected from the private sector cannot be realized. Finally, governments must abandon their traditional means of evaluating bids solely on the basis of a financial offer. Under BOT-type contracts competition must be carefully balanced over a number of factors including technical solution, resultant cost benefit, and financial package quality (4:60).

Moreover, in initiating competition, governments also need to guard against seeking bids on projects for which technical feasibility has not been established. Bidding is expensive and serious bidders will only commit themselves if schemes are viable and the risks are reasonable. While it may seem desirable or efficient from the government's perspective to avoid detailed specification in order to allow the private sector flexibility in offering proposals, such arrangements run the risk of adding to eventual project costs as a result of the private sector demanding greater returns in accordance with the additional risks they must bear; may result in projects which do not fulfill real needs; or may dissuade private sector bidders from participating (5:19).

Overall, shortcomings in the government's capacity to manage the BOT tendering process have contributed to undermining the private sector's confidence in the long-term potential for BOT projects (4:60). To effect changes, the consensus thought reflects the need for governments to undertake all necessary preliminary work, where possible, and to bear relevant costs prior to calling for bids. Moreover, project solicitations should be complete without being overly prescriptive and should be designed to foster competition. In having the feasibility of the project approved by government with a sufficient technical description designed to leave no doubts as to the objectives of the project, risks of government abandonment are reduced and an appropriate climate will be set for competing promoters to offer innovative proposals (5:20). Overall, it is important that the government demonstrate initiative in spearheading efforts to set substantiated policy with respect to BOT contract management (4:61).

## **CHAPTER 7**

### **KEYS TO SUCCESSFUL SPONSORSHIP OF BOT PROJECTS**

#### **7.1 Introduction**

Winning a BOT concession involves much difficulty. The whole process of project development is a complex, time-consuming, and expensive task. The financial risk is high, competition is intense, negotiations are tedious, and opportunity costs are considerable. Those sponsoring BOT proposals must be willing to take calculated risks and be flexible in their business dealings. Moreover, bidders must realize government's concern in accepting BOT proposals and be sensitive to these issues. With these factors in mind, Tiong, et al., cite six factors as being critical to the success in winning a BOT contract: entrepreneurship, picking the right project, a strong team of stakeholders, an imaginative technical solution, a competitive financial proposal, and the inclusion of special features in the bid. Table 7.1 summarizes the critical success factors discussed below (19:218-227).

**TABLE 7.1 CRITICAL SUCCESS FACTORS IN BOT PROJECT EXECUTION**

Critical Success Factors	Components
Entrepreneurship	<ul style="list-style-type: none"> <li>■ calculated risk-taker</li> <li>■ cultivating goodwill and relationship with host government officials</li> </ul>
Pick the right project	<ul style="list-style-type: none"> <li>■ accurate prediction of critical need for project</li> <li>■ lack of funds by host government</li> <li>■ ideal candidate for privatization</li> <li>■ potential to achieve near-monopolistic advantage for the products/services provided</li> </ul>
Strong team of stakeholders	<ul style="list-style-type: none"> <li>■ form a multidisciplinary and multinational team of stakeholders</li> <li>■ leadership from a key entrepreneur or corporation</li> <li>■ perseverance and financial strength for protracted negotiations</li> </ul>
Imaginative technical solution	<ul style="list-style-type: none"> <li>■ simplicity</li> <li>■ functional</li> <li>■ innovative</li> <li>■ cost-effective</li> </ul>
Competitive financial proposal	<ul style="list-style-type: none"> <li>■ low construction costs</li> <li>■ reasonably high debt/equity ratio</li> <li>■ acceptable tariff levels</li> <li>■ short construction and concession periods</li> <li>■ forecasts of future demand</li> </ul>
Special features of bid	<ul style="list-style-type: none"> <li>■ imaginative elements that demonstrate altruism toward host government</li> <li>■ contractual provisions to address specific concerns of government</li> </ul>

(19:222)

#### 7.1.1 Entrepreneurship

The entrepreneurial spirit must exist in any successful company. This is especially true for companies engaged in pursuing a BOT concession. The BOT concept means

taking a totally innovative approach to business-development risks. Since the projects are only temporarily owned or leased by the private sector and since the government wants to assume as little risk as possible during the concession period, unique entrepreneurial challenges must be met by the concession company.

#### 7.1.2 Picking the Right Project

One of the crucial factors in winning BOT contracts is the ability to pick the proper project to initiate. There are a number of conditions that should apply in order to maximize the chances of the project being commercially viable. Two basic requirements for success are as follows. First, there should be a demonstrated and accepted need for the project. Second, there should be a near-monopoly situation in the provision of service. Utility projects commonly entail a monopolistic situation. However, transportation projects are more susceptible to competition; therefore, projected demand must be carefully analyzed. Also, the method of bid origination, be it solicited or speculative, impacts the desirability of the project. Factors pertaining to the conditions impacting bid origination are discussed in the following paragraphs.

In the instances where bidding is invited by the government from the private sector, prospective bidders should try to be cognizant of several factors. First, the proposal should not be overly technically innovative for the country in which the project is intended. For example, a nuclear power plant in an underdeveloped country has little chance of succeeding on a BOT basis. Secondly, the cost of construction should be reasonably within the means of the private sector. Therefore, the presence of a strong

local capital market greatly enhances the probability of the successful tendering of a BOT project. Thirdly, potential promoters should be aware of legislation governing the BOT contracting process in a host nation. Administrative delays are greatly reduced if enabling legislation or precedents exist in the country. For example, countries such as Ireland, France, and Malaysia all have enabling legislation concerning BOT concessions which has led to a positive climate for businesses. Conversely, countries like the United Kingdom usually require a special bill to be passed by parliament to enable BOT processes. This has discouraged businesses from competing for BOT concessions. Fourthly, there should be a small number of bidders. If there are more than three bidders, promoters may feel it is not worthwhile to compete. Finally, the political ability of the host government to support the BOT concept is important. Without such political will there is a strong chance of failure.

In cases where a promoter initiates a speculative proposal to the government, the following factors should be considered. Most importantly, the policy of the host government concerning intellectual property must be understood. Ideally, the promoter would be the one to capitalize on the idea. However, if there is a strong chance that the government will use the promoter's idea as the basis of an invited competitive tender, the bidder must be confident of winning even in the face of competition. Overall, a thorough investigation should be conducted up front to establish the exact needs of the public agency, and, if possible, a letter of intent should be obtained granting exclusive rights to the promoter.

### 7.1.3 Strong Team of Stakeholders

From a private sponsor's standpoint, a combination of diverse skills and talents is essential in successfully executing a BOT project. Accordingly, a strong multidisciplinary team must be formed at the beginning of the process. At first, the team should consist of members possessing the requisite technical and financial engineering skills to initiate the project. Should the team pass the government's initial evaluations and proceed to the short list of bidders, the team should be further strengthened by adding other stakeholders, such as project and construction managers, financial and legal advisors, specialist subcontractors, and suppliers. Also, the demographic composition of the group is of extreme importance. Therefore, care should be taken to include local stakeholders from the host country to satisfy the inherent political aspects of typical BOT projects.

In addition to technical skills, Tiong, et al., have identified eight professional and personal characteristics that, according to their research, are essential in establishing a strong consortium: (1) Acceptance of a common goal; (2) capacity for analysis of country-related parameters such as political risk and government commitment; (3) effective negotiating strategy; (4) financial strength to bear the development costs; (5) staying power to meet the huge demand in management time; (6) desire to successfully carry out the project with a vision and will to persist against all odds; (7) capacity to supplant disappointment with renewed rigor; and (8) suppleness in relation and submerging of potential conflicts of interests among the different parties in the consortium.



#### 7.1.4 Imaginative Technical Solution

The element of an imaginative design must provide a simple solution to the needs of the project. Combining existing technologies or systems in new ways is often the key to innovative solutions as governments and investors alike may fear untested technical or politically sensitive proposals. For example, the proposal submitted by Japan's Kumagai Gumi for the Eastern Harbor Crossing project in Hong Kong attracted the government's attention because of its innovative concept of a combined rail and road tunnel to relieve both traffic congestion and train overcrowding during peak travel periods. Another proposal submitted by Kumagai Gumi in a joint venture with Australia's Transfield for the Sydney Tunnel project was also highly regarded by the government because of its innovative approach. The idea of a tunnel was not new as earlier proposals had failed because of the expense of building and the political sensitivity of acquiring private land to execute the project. The proposal by Kumagai Gumi and Transfield was unique in that it submitted the idea of linking to existing roads at either end of the Sydney Bridge thereby reducing construction expenses and eliminating the need to acquire private land and demolish existing facilities.

#### 7.1.5 Competitive Financial Proposal

Under the BOT model the commercial and financial considerations, rather than the technical elements, are likely to be the key factors affecting the final determination of the winning concession. As such, the following elements must be considered by the sponsors with regard to developing a sound and competitive financial proposal for a project:

(1) Low construction costs; (2) reasonably high debt to equity ratio; (3) acceptable tariff levels; (4) short construction and concession period; and (5) forecasts of future demand.

The proposed tariff rate is one of the factors most keenly scrutinized by government during the selection process. Many times a project will operate in some form of monopoly and the government has political reason to regulate the tariff to ensure that it is justifiable. From the point of view of consumers, tariffs need to be reasonably low so as not to be overly burdensome. From the standpoint of investors and lenders, tariffs need to be reasonably high so that revenues are capable of covering the project's costs and providing adequate compensation for shouldering the associated risks. Balancing these conflicting interests is a very delicate task for project sponsors. Overall, the sponsors should not hope to make excessive profits; however, revenues and returns should be commensurate with the risks taken.

#### 7.1.6 Special Features

In the projects analyzed by Tiong, et al., the winning bids inevitably contained at least one imaginative element making the proposal unique. Features setting the winning proposals apart from others were diverse, but two common themes persisted. First, successful proposals demonstrated the altruism of the bidders by showing that those promoting the project were not motivated by the prospect of early profit-taking. Second, winning proposals addressed the specific fears the host government had regarding the project under consideration. Common fears felt by government include foreign ownership of local companies and overpricing in the operation phase. Moreover, governments may

be suspicious of whether the promoters will experience a gain that they are not disclosing. Overall, successful bids must take the means necessary to mitigate the concerns of the public sector.

The proposal submitted by the British consortium for the Queen Elizabeth II Bridge project in London is an example of a successful bid containing the type of special feature discussed in the preceding paragraph. A clause provided in the proposal stipulates that if the project's loans are repaid early then the transfer of the assets to the government will take place early as well. This clause serves to show that the project's promoters do not intend to exploit the project to generate excessive profits. A positive outcome was therefore achieved by all concerned in that the promoter won the concession and the government received assurances that the promoter would not be unjustly enriched at public expense.

## 7.2 Conclusion

BOT project sponsors must realize that the process of winning a project is fraught with uncertainties and risk. Pursuing a BOT contract requires the development of a team possessing exceptional technical and financial skills, an entrepreneurial spirit, and the determination to persevere. Focusing on the six factors described above should enable a team to undertake a well conceived approach in competing for a BOT contract.

## **CHAPTER 8 CONCLUSION**

BOT contracts are increasingly being used across a number of sectors by governments in their drive to privatize major public projects. Primarily, governments see BOT schemes as a method of financing the construction of projects without the need for a direct sovereign guarantee of the loans. Furthermore, experiences documented by OECD countries and recorded in Public Management Occasional Papers suggest that productive, allocative, and dynamic efficiency gains are possible from the wider involvement of the private sector in infrastructure provision. These gains can be expected to result from the application of greater market disciplines to both individual project selection and aggregate investment choices for the public sector as a whole; from innovation by the private sector in project design and implementation; and from the circumvention of cumbersome public sector procurement regulations which have historically imposed delays in design, finance, and construction, and have subsequently increased the costs of projects (5:23).

However, benefits of privatization will not be realized automatically. Obtaining the rewards will require innovation and skilled management on the part of the public sector. Securing potential efficiency gains will require the establishment of sound acquisition processes. Proposals should be solicited only after preliminary planning approvals and public consultation requirements have been met. The solicitation itself should be performance related so as to leave no doubt as to the requirements for the project, yet should allow room for innovative proposals. Once proposals are selected for implementation, an appropriate balance of risks must be obtained through the offering of

guarantees and incentives by both the public and private sector. Overall, to ensure these benefits a change in attitude allowing the public and private sector to evolve from their traditional roles in project execution must come about. Once this philosophy is fully accepted, appropriate procedural modifications can be effected.

Real experimenting with the use of markets in and by public administrations provides an irreplaceable way of testing how the public sector can be better managed (5:24). This dynamic has already shown itself to be quite powerful in promoting greater efficiency by expanding perspectives on what can be tried. In the past this has been exemplified in many sectors where market type mechanisms have been employed: the introduction of competition in postal, telephone, and telecommunications services; the design and implementation of international competition with hospital and school systems; and the establishment of competition through deregulation of airlines and privatization of airports. Given time and careful management similar benefits should be obtainable from public/private partnerships in infrastructure provision (5:24).

## NUMBERED REFERENCES

1. Foreword, *New Ways of Managing Infrastructure Provision*, Public Management Occasional Papers, Market-Type Mechanisms Series No. 8, Organization for Economic Cooperation and Development, No. 6, Paris, 1994
2. Tiong, R. L. K., "Competitive Advantage of Equity in BOT Tender," *Journal of Construction Engineering and Management*, Vol. 121, No. 3, September, 1995
3. McCarthy, S. C., and Tiong, R. L. K., "Financial and Contractual Aspects of Build-Operate-Transfer Projects," *International Journal of Project Management*, Vol. 9, No. 4, November, 1991
4. Mason, P. J., "Privately Financed Infrastructure," *IEE Review*, Vol. 40, No. 2, March 17, 1994
5. Lacasse, F., and Wall, T., "Public/Private Partnerships in Infrastructure Provision: Main Issues and Conclusions," *New Ways of Managing Infrastructure Provision*, Public Management Occasional Papers, Market-Type Mechanisms Series No. 8, Organization for Economic Cooperation and Development, No. 6, Paris, 1994
6. Tiong, R. L. K., "Risks and Guarantees in BOT Tender," *Journal of Construction Engineering and Management*, Vol. 121, No. 2, June, 1995
7. Kessides, C., *Institutional Options for the Provision of Infrastructure*, World Bank Discussion Papers, No. 212, Washington, D. C., September, 1993
8. Tiong, R. L. K., "Comparative Study of BOT Projects," *Journal of Management in Engineering*, Vol. 6, No. 1, January, 1990
9. Tiong, R. L. K., "Impact of Financial Package Versus Technical Solution in a BOT Tender," *Journal of Construction Engineering and Management*, Vol. 121, No. 3, September, 1995
10. "Whose Business Is It Anyway?" *The Economist*, Vol. 327, No. 7812, May 22, 1993
11. Brigham, E. F., and Gapenski, L. C., *Financial Management Theory and Practice* (7<sup>th</sup> ed), Dryden Press, Harcourt Brace College Publishers, Fort Worth, 1994
12. Gordon, C. M., "Choosing Appropriate Construction Contracting Method," *Journal of Construction Engineering*, Vol. 120, No. 1, March, 1994

13. Raneberg, D., "Innovations in the Public-Private Provision of Infrastructure in the Australian State of New South Wales," *New Ways of Managing Infrastructure Provision*, Public Management Occasional Papers, Market-Type Mechanisms Series No. 8, Organization for Economic Cooperation and Development, No. 6, Paris, 1994
14. Fowler II, J. P., and Thompson, K. R., "Toll Road That Wouldn't Die," *Civil Engineering*, Vol. 65, No. 4, April, 1995
15. Havens, H. S., "Public and Private Sector Roles in the Construction of Highways: An Overview of the United States Experience," *New Ways of Managing Infrastructure Provision*, Public Management Occasional Papers, Market-Type Mechanisms Series No. 8, Organization for Economic Cooperation and Development, No. 6, Paris, 1994
16. Reinhardt, W. G., "Infrastructure Entrepreneurs Pioneer Private Toll Roads," *Public Works Financing*, October, 1990
17. Prendergast, J., "Privatization Takes Its Toll," *Civil Engineering*, Vol. 63, No. 1, January, 1993
18. *Privatization*, California Department of Transportation Office of Privatization Pamphlet, October, 1989
19. Tiong, R. L. K., Yeo, K. T., and McCarthy, S. C., "Critical Success Factors in Winning BOT Contracts," *Journal of Construction Engineering and Management*, Vol. 118, No. 2, June, 1992

### ADDITIONAL REFERENCES

- A. Carlisle, J. L., "Private Funding of Public Highway Projects," *Proceedings of Institute of Civil Engineers, Transport*, Vol. 105, No. 1, February 1994
- B. Hewson, N. R., "The Use of External Tendons for the Bangkok Second Stage Expressway," *Structural Engineer*, Vol. 71, No. 23-24, December 7, 1993
- C. O'Connor, L., "Tunneling Under the Channel," *Mechanical Engineering*, Vol. 115, No. 12, December, 1993
- D. Saito, N., and Cunneen, D., "Sydney Harbour Tunnel: Review of Environmental Factors," *Proceedings of the Institution of Civil Engineers, Transport*, Vol. 105, No. 3, August, 1994



**GUIDELINES FOR CONCEPTUAL  
PROJECT PROPOSALS**

**FOR TOLL REVENUE  
TRANSPORTATION PROJECTS**

**CALIFORNIA DEPARTMENT  
OF TRANSPORTATION  
OFFICE OF PRIVATIZATION**



**MARCH 1990**

I. INTRODUCTION

These Guidelines for Conceptual Project Proposals (Guidelines) initiate the second stage of a two-stage screening and selection process (see Attachment 3). Those who have been determined to be qualified during the Request for Qualifications (RFQ) first stage are invited to submit one or more conceptual project proposals for toll revenue transportation projects (highway, bridge, tunnel, monorail, light rail, etc.) in the State of California. While no State or federal funds are available for these proposals, local governments may participate.

Assembly Bill No. 680 (Attachment 1), which was effective July 10, 1989, authorizes the California Department of Transportation (Caltrans) to enter into agreements with the private sector to grant exclusive development rights to construct four (4) transportation projects and receive toll revenues for up to 35 years. Associated Caltrans airspace may be leased to acquire related value-added revenues for up to 99 years. This legislation authorizes Caltrans to use its power of condemnation on behalf of these projects. However, condemnation will be used only as a last resort, and, if used, its use will comply with existing statutes, and Caltrans' policies and procedures.

Transportation privatization projects have been defined by AB 2483 (see Attachment 2) as public works, for purposes of prevailing wages.

The State is seeking specific proposals which meet (1) the legislative intent expressed in Assembly Bills 680 and 2483, (2) applicable portions of the General and Specific Goals of California Transportation Direction (see Attachment 4), and (3) the specific requirements of these Guidelines.

A Caltrans committee will review and evaluate the proposals submitted. Final selection of the four best proposals and a priority ranking of all other proposals will be made by the Director of the California Department of Transportation. It is anticipated that exclusive proposal development agreements will be negotiated with the four selected proposers.

Except for local government contacts, proposers are encouraged to avoid political activities or actions to

promote their specific proposal(s) except in their submittal to Caltrans.

## II. REQUIRED DELIVERABLES

Conceptual project proposals must include the following items:

- A. Description of Proposer
- B. Concept Report
- C. Preliminary Environmental Evaluation
- D. Financial Plan
- E. Schedule for Development
- F. Documentation of Support
- G. State Services Desired
- H. Support for State Civil Rights Objectives
- I. Proposal Filing Fee

The following descriptions cover details of each item required. Note that these requirements are the minimum necessary; additional information may be submitted with your proposal if you believe it will be useful in Caltrans' proposal evaluation and selection.

### A. Description of Proposer

A completed "Developer Questionnaire" (Questionnaire), see Attachment 5, was part of your successful response to our November 1989 RFQ. Your response to these Guidelines must update the information previously submitted in the following manner.

Respond to Questionnaire section A (Identification of the company or consortium) as follows:

1. Provide the information requested under items 1 and 3 through 9 for any companies added to your group (note that you may not change the principal

or lead organization which you previously identified under item 2; your organization is one of the limited number which will be allowed to submit proposals).

2. Identify any companies which have been deleted from your group.
3. Update the information which you previously submitted under items 1 and 3 through 9 (e.g., revised names, addresses or telephone numbers; revisions to the business structure or relationships between companies; changes in the joint venture partners or equity interests in your proposal; revisions to your roles, experience, responsibilities, organization, etc.)

Respond to Questionnaire section B, items 1 through 3 and 5 as follows:

4. Provide the information requested for any companies added to your group.
5. Provide updated information for your original group where appropriate (e.g., more recent financial statements, larger loans secured, additions to your original list of financial partners and lenders).

The following new information, similar to that previously provided in the Questionnaire, section C but specifically related to your proposal, is to be included in your response to these Guidelines.

6. Provide a statement addressing the developer's ability to manage a project team including environmental, engineering design, right of way, financing, construction, toll operations, and maintenance for projects similar in size and type to the one being proposed.
7. Provide a description of project experience in major transportation facilities of the size and type being proposed (both domestic and international), company or consortium roles and responsibilities in the projects, and references including contact persons and telephone numbers.

8. Provide a description of the ownership status of each project listed above.
9. Describe the company's or consortium's experience in long-term management and operation of toll revenue transportation facilities for projects similar in size and type to the one being proposed.
10. Describe your experience in the design, installation, and operation of modern automated traffic operations, Automatic Vehicle Identification (AVI), Electronic Toll Collection (ETC) systems or any other relevant technical innovations which you plan to utilize in your proposal.

B. Concept Report

The Concept Report must provide sufficient detail to clearly describe your proposal and to allow its evaluation relative to the other proposals. As a minimum, the Report should contain the following information. (This outline is for a highway facility. Comparable data will be required for other transportation modes.)

1. Briefly describe the proposed project (location and limits) and its purpose; include suitable mapping (1" = 100' is desirable).
2. Provide a clear statement of the transportation services that are being proposed; include a description of the existing State-owned transportation facility which would be supplemented.
3. Discuss engineering concepts.
  - a. Geometric cross-section
  - b. Design designation

ADT(19xx): estimated average daily traffic  
for first year of operation

ADT(19xx+20): average daily traffic for  
future year ( 20 years  
hence)\* used as target in  
design

- \* Note, it is expected that additional future traffic projections will be required to satisfy Financial Plan requirements.

DHV: two-way design hourly volume

D: percent of DHV in direction of heavier flow

T: Truck increment as a percentage of the DHV

V: design speed in MPH

c. Interchange locations and type

d. Toll collection concept

4. Identify and describe the alternatives (include mapping or illustrations), including:

a. No-build alternative

b. Design alternatives

c. Alignment alternatives

5. Briefly describe right of way requirements

a. Needs (acres, width of corridor, etc.)

b. Utility relocations

c. Railroad involvement, and/or relocations

d. Relocation assistance requirements (residential, commercial)

e. Airspace usage (reserved utility corridor, transit, roadside rests, commercial development, other)

f. Hazardous waste potential

6. Discuss compliance with Caltrans' design standards as contained in appropriate manuals. Include appropriate statements or materials to show the intent to comply with standards such as:

- a. Geometrics, horizontal and vertical
- b. Structural section
- c. Drainage
- d. Structures

7. Agency Permits or Approvals

Identify agency permits or approvals that will be required if proposal is to be implemented.

Following is a list of permits or approvals commonly required for typical transportation projects.

a. Local/Regional

- 1) City, County, or Regional Planning Agency [including Local Coastal Plan permit, and in the San Francisco Bay Area the Bay Conservation & Development Commission (BCDC)].
- 2) Permit to Enter on private lands
- 3) Regional Water Quality Control Board
- 4) Airport Coordination
- 5) Freeway Agreement
- 6) Native American Coordination

b. State

- 1) State Historic Preservation Office

- 2) California Fish and Game (Resource protection; State endangered species; Fish & Game Code Section 1601/3 Agreement)
- 3) Department of Health Services (Hazardous Waste)
- 4) Department of Transportation (Encroachment Permit, Freeway Agreement)
- 5) California Transportation Commission (Route Adoption, New Connection to Freeway)

c. Federal

- 1) Corps of Engineers (Clean Water Act, Section 404 Permit, includes wetlands)
  - 2) U.S. Fish & Wildlife Service (Endangered Species)
  - 3) Environmental Protection Agency (Wetlands, Hazardous Waste)
  - 4) Federal Highway Administration (FHWA)
  - 5) U.S. Coast Guard (Bridges over navigable waters)
8. Provide capital cost estimates, identified by major components, for your proposal
- a. Basis of estimate and how derived
  - b. Right of way costs
  - c. Construction costs identified by major components; e.g., grading, drainage, structures structural section, electrical, environmental mitigation, etc.
9. Discuss proposed connections or any other involvement with Federal-aid highways and whether National Environmental Policy Act (NEPA) documents or FHWA design approvals are required. Discuss proposed actions necessary to comply with any FHWA requirements.



### C. Preliminary Environmental Evaluation

The purpose of the preliminary environmental evaluation is to (1) describe how the proposed project would further California's environmental goals; (2) identify environmental resources and issues which may affect development of the proposal into a project; (3) identify, for all proposed alternatives, mitigation measures needed to avoid or reduce significant environmental impacts. The level of detail provided is expected to be consistent with the proposal description provided in the Concept Report.

#### 1. Environmental Goals

Briefly describe how the proposed project furthers California's environmental policies as described in the California Environmental Quality Act (Public Resources Code Sections 21000-21002 are attached, see Attachment 6).

#### 2. Potential Environmental Resources and Issues

Provide a brief paragraph for each affected environmental resource or issue expected to be significant. The following list contains typical resources that may be affected by transportation projects.

##### a. Physical

- 1) Topography change, seismic exposure, erodibility
- 2) Air, noise, energy, solid waste, use of natural resources
- 3) Wetlands, water, groundwater, and floodplains

##### b. Biological

- 1) Fish and wildlife; species and habitat
- 2) Vegetation
- 3) Agriculture and timber

c. Sociological

- 1) Land use and growth
- 2) Business, industry, economy, employment
- 3) Population characteristics, housing, neighborhoods
- 4) Schools, public facilities
- 5) Heritage resources
- 6) Recreation, park land, open space
- 7) Aesthetics, visual, scenic resources

3. Potential Mitigation Measures

Briefly describe potential mitigation measures to be incorporated in the proposed project to avoid or reduce significant environmental impacts.

D. Financial Plan

The Financial Plan must provide sufficient detail to demonstrate a reasonable basis for funding the conceptual project. The level of detail provided should be consistent with the level of development of the balance of the conceptual proposal.

Final selection of any proposal will be dependent, in part, on the adequacy of the general Financial Plan, see IV. Selection Criteria of these Guidelines. In this regard, Caltrans intends to provide a list of prequalified companies who will be able to analyze, and offer an opinion as to the adequacy of, any Financial Plans submitted in response to these Guidelines. The statement of opinion to be required from the prequalified financial consultants is:

"It is our opinion, as of \_\_\_\_\_, 1990, that the financial plan contained in the proposer's conceptual proposal appears to be based on reasonable financial assumptions consistent with the level of analysis provided in the conceptual transportation project

development proposal, and as a result provides a reasonable basis for the further development of the conceptual proposal. It is our opinion that the financial plan, at the conceptual level, adequately identifies the source(s), type(s), amount(s), and schedule of financing based on conditions that currently prevail in the capital and debt markets, and which are contemplated at specific stages in the development of the conceptual proposal."

All costs for the financial review and obtaining an opinion of adequacy will be charged directly to the project proposer by the financial consultant. A description of typical costs for each prequalified company is available from Caltrans.

The Financial Plan submitted must provide the information necessary to obtain the required opinion of adequacy. It is expected that this opinion can be provided in a reasonable and timely manner. It will help the proposal, and assist the financial consultant selected, if the general Financial Plan is organized to match, if appropriate, the structure of "Representative Tasks for Consideration". See Attachment 7.

All of the companies placed on the Caltrans list of prequalified financial consultants have been informed that they must be totally independent from any proposer responding to these Guidelines. Any financial consultant providing an opinion of the adequacy of a Financial Plan as described above will be required to certify the following:

"We certify that we have no current or contemplated involvement with any individual or company identified in a conceptual project proposal that would constitute a conflict of interest. This includes, but is not limited to, participating in a consortium, serving as a consultant to a consortium, serving as a funding source or underwriter, or being a subsidiary, parent or affiliate of a company involved in a conceptual project proposal."

If the proposed financial plan is deficient and a favorable opinion cannot be initially provided, the

financial consultant is to list the areas of deficiency that must be corrected to obtain a favorable opinion.

The project proposer will be given an opportunity to correct the deficiencies and resubmit the revised plan to the financial consultant. To maintain the integrity of an independent review, the financial consultant performing the review is precluded from providing consulting assistance necessary to correct the identified deficiencies.

E. Schedule for Development

Provide a schedule listing the important events and the proposed dates associated with each of these events. The schedule should start with notification by Caltrans that the proposal has been selected as one of the four best candidates for a demonstration project and extend at least until the projected date on which the facility would be opened to traffic.

Briefly discuss proposed schedule. Include in this discussion the proposed approach for managing the schedule, strategy for dealing with any unanticipated delays (e.g., unexpected environmental problems, late delivery of required permits, project related litigation, etc.).

F. Documentation of Support

Provide evidence of support for proposal. Following is a representative, but not all-inclusive, list of items:

1. resolutions by affected local governments
2. resolutions by affected governmental agencies
3. letters of support from government officials
4. letters of support from other interests

G. State Services Desired

Provide a listing of any optional, reimbursable services which the State will be requested to provide under separate contract for the proposed project. Such a listing might include specific products desired from

Caltrans (e.g., traffic projections for a highway segment or alternative which Caltrans had not previously developed), long-term services desired from State agencies (e.g., highway maintenance by Caltrans or police services by the Highway Patrol for an operating tollway). Include the approximate start and finish dates which would be expected for any such optional services contracted from the State.

Note that there will be additional reimbursable Caltrans services related to the project which will not be optional; see III. A., Terms and Conditions of these Guidelines. These services are those required for protection of the State's interest (e.g., project design and construction oversight, auditing, etc.).

H. Support for State Civil Rights Objectives

Describe actions which would be taken under the proposal in support of State civil rights objectives. Such actions would include, but not be limited to, use of Disadvantaged Business Enterprises (DBEs) and the use of minority and women employees.

I. Proposal Filing Fee

A check for \$50,000 payable to the California Department of Transportation must be included with each project sponsor's proposal(s). The required filing fee is \$50,000 per sponsor; no additional fee will be required for sponsors choosing to submit more than one project proposal.

Checks accompanying the four best proposals, see Section IV., Selection Criteria of these Guidelines, will be deposited when proposal development agreements are signed by Caltrans and the related proposer. These funds will be used to offset Caltrans' costs for performing proposal evaluation and selection. Any of these funds in excess of Caltrans' evaluation and selection costs will be placed in an account to offset costs for future Caltrans services required for protection of the State's interests, as described in section III. A. of these Guidelines.

A portion of the filing fee accompanying lower-ranked submittals will be retained to offset Caltrans'

proposal evaluation costs. The retention will be \$5,000 per project proposal (i.e., a sponsor submitting two project proposals will have \$10,000 retained). Refunds to initially unsuccessful proposers will occur when the proposal development agreements discussed above have been successfully executed. In the event that an initially lower ranked proposal is selected at a later time, new checks in the amount of the refund, payable to the California Department of Transportation, will be required.

### III. TERMS AND CONDITIONS

The development of selected proposals into an actual transportation facility will be subject to the following:

- A. Development must be performed and completed at no cost to the State. In addition to all other proposal development costs, sponsors for the four proposals ultimately selected for such development will be responsible for Caltrans costs related to protection of the State's interest. Typical costs of this type would be those associated with proposal selection, review of right of way acquisition, project design and construction oversight activities, review of maintenance programs, and auditing of development, construction and operational costs.

The State's policy is to recover full costs whenever goods or services are provided for others. This policy is to be followed in all cases except when statutes prohibit full cost recovery. All State costs that are reimbursable by developer shall include all costs as specified in Section 8752.1 of the State Administrative Manual. In addition, all obligations of the State are contingent upon the Department having the budgetary authority to perform the work.

- B. Any debt incurred as a consequence of these activities shall be the responsibility of proposal sponsors and their associates or subordinates. There shall be no lien, either real or implied, against the State for such debt.
- C. Development must comply with all applicable laws and government regulations. Important examples are:

1. Assembly Bills 680 and 2483
  2. The Political Reform Act (California's Government Code section 86109)
  3. California licensing requirements (e.g., engineering and contracting)
  4. Local real estate zoning regulations
  5. State standards for design, construction, maintenance and operations, including police services.
  6. Public Records Act (California Government Code Sections 6250 et seq)
  7. Caltrans' power of condemnation (California Code of Civil Procedures Section (1230.010 et seq)
  8. Applicable references noted in II. B. 7. of these Guidelines
  9. Applicable non-discrimination requirements, including, but not limited to, Labor Code Section 1735.
- D. Caltrans expects to enter into exclusive proposal development agreements with the four (4) sponsors providing the best proposals. These agreements would provide proposal sponsors with a time-limited option for developing their proposal into an acceptable project and would inhibit Caltrans from building competing facilities during the option period.
- E. Development activities must demonstrate a good faith effort to conform to State civil rights objectives.
- F. Caltrans reserves the right to modify these Guidelines including, but not limited to, specified deadlines and to reject any or all submissions for any reason without incurring any cost or liability.

#### IV. SELECTION CRITERIA

Proposals submitted in response to these Guidelines will be evaluated against the following specific weighted criteria:

- A. Transportation service provided by proposal (20 points).
- B. Degree to which proposal encourages economic prosperity and makes overall good business sense (10 points).
- C. Degree of local support for proposal (15 points).
- D. Relative ease of proposal implementation (15 points).
- E. Relative experience and expertise of the proposal sponsors and their support team on similar projects (15 points).
- F. Degree to which proposal supports the State's Environmental Quality and Energy Conservation Goal, see Attachment 4 -- Specific Goal III (10 points).
- G. Degree to which non-toll revenues support proposal costs; note, such support is considered positive (5 points).
- H. Degree of technical innovation associated with proposal; e.g., use of AVI, ETC, modern automated traffic operations, differential tolls and peak-hour pricing flexibility, provision of low- or no-maintenance features (10 points).
- I. Degree of proposal's support for achieving the civil rights objectives of the State as expressed in Public Contract Code sections 10115-10115.10 regarding the utilization of Minority and Women Business Enterprise (10 points).

A proposal which achieves the highest possible evaluation for all nine criteria would receive a score of 110 points.

Proposals will be reviewed and evaluated, using the criteria listed above, by a proposal review committee approved by the Caltrans Director. The review committee members will be determined after receipt of proposals. Proposals, along with review committee evaluations and recommendations, will be reviewed by the Privatization Advisory Steering Committee and subsequently submitted to the Director for his selection of the four (4) best proposals and a priority ranking of all other proposals. Note that it may be necessary for proposer to attend one or



more meetings with the Caltrans review committee and/or Director during the proposal evaluation period.

In addition to the evaluation and selection process described above, the four best proposals must obtain the independent opinion of adequacy described in II. D. Financial Plan.

It is Caltrans' intention that evaluation of conceptual project proposals not be influenced by the presence or absence of an independent opinion of the Financial Plan's adequacy at the time the proposal is submitted. In order to assist the Department to avoid this potential bias, project proposers shall submit in a sealed envelope either:

1. a completed financial review together with a signed opinion of adequacy by a financial consultant selected from the Caltrans prequalified list, or
2. blank sheets of paper if they elect to defer their financial review until after the selection of the four best projects.

The outside of the sealed envelope shall be labeled "Financial Consultant Review" and must indicate the name of the qualified proposer.

Sealed envelopes will not be opened until all proposals have been evaluated and the four best selected. Conditional selection will be made subject to obtaining an independent opinion of financial plan adequacy. After conditional selection, the financial review envelopes for the best four projects will be opened. Those containing a signed opinion of financial plan adequacy will receive final approval. Those without a favorable adequacy opinion will remain conditional selections until an opinion is received.

Retention of a financial consultant after receiving Caltrans' conditional selection as a "best proposal" may delay execution of exclusive proposal development agreements, although Caltrans will enter into negotiations while awaiting the opinion.

V. PROPOSAL SUBMISSION

COMPANIES AND CONSORTIA WISHING TO PARTICIPATE IN THIS PROCESS MUST DELIVER THE REQUIRED TEN (10) COPIES OF THEIR SUBMISSION, ALONG WITH THE REQUIRED FILING FEE, ON OR BEFORE AUGUST 1, 1990 AT 5:00 P.M. PACIFIC DAYLIGHT TIME TO:

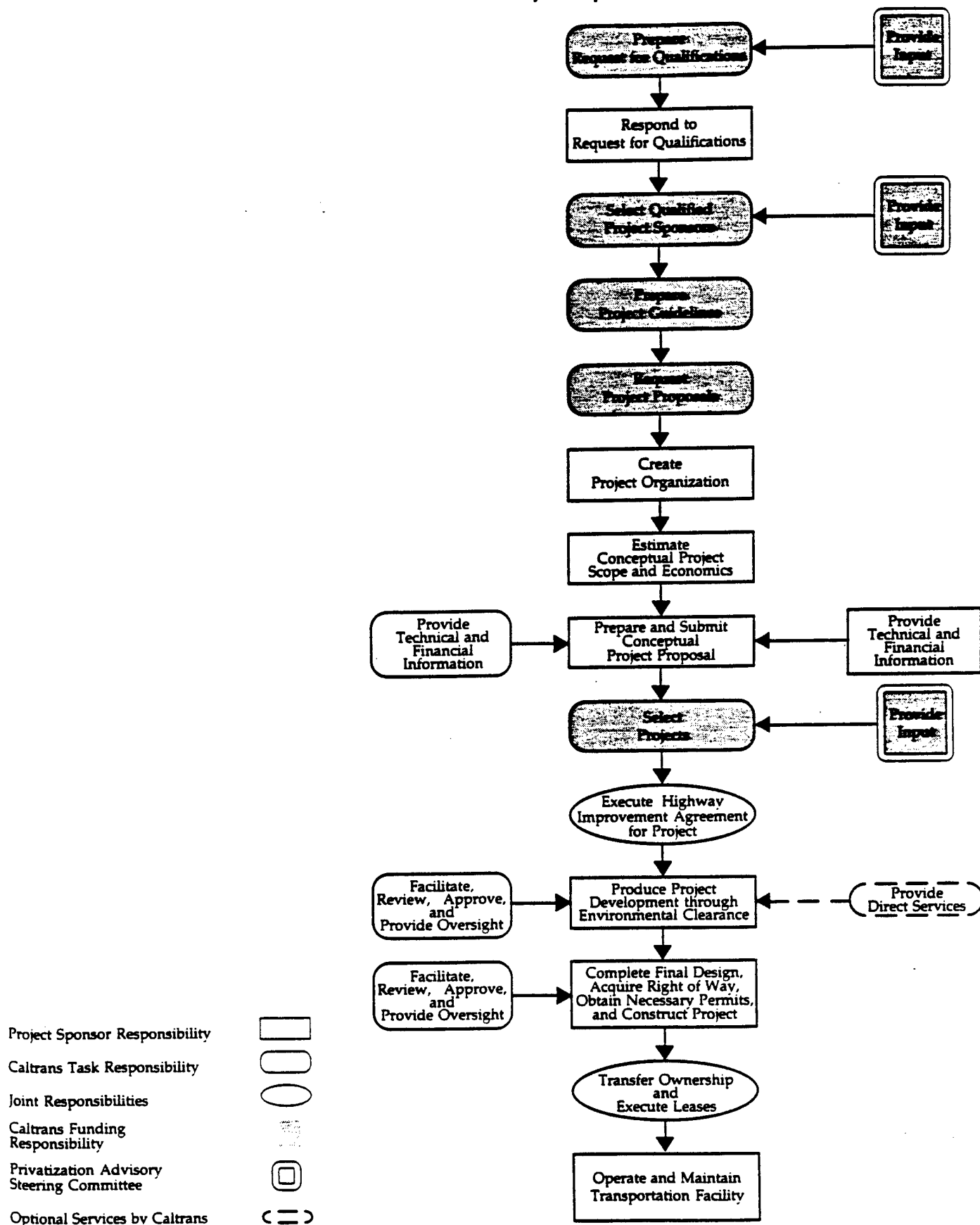
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
DIRECTOR'S OFFICE  
1120 N STREET, ROOM 1100  
SACRAMENTO, CALIFORNIA 95814  
U.S.A.

ATTENTION: CARL WILLIAMS

ALL SUBMITTALS MUST BE PREPARED ENTIRELY IN ENGLISH AND BE SIGNED BY A REPRESENTATIVE OF ALL COMPANIES IDENTIFIED AS MEMBERS OF A CONSORTIUM.

UNDER NO CIRCUMSTANCE WILL RESPONSES RECEIVED AFTER THE SPECIFIED DAY AND TIME BE ACCEPTED.

# Roles and Responsibilities of Project Sponsors and Caltrans



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**Amended and Restated  
Development Franchise Agreement**

**INCLUDES AMENDMENT 1**

*Effective as of July 16, 1993*

**State Route 91 Median Improvements**  
*Orange and Riverside Counties, California*



**State of California  
Department of Transportation**



**California Private  
Transportation Company, L.P.**

*Effective as of June 30, 1993*

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## Article 1. Preamble

THIS AMENDED AND RESTATED DEVELOPMENT FRANCHISE AGREEMENT FOR THE STATE ROUTE 91 MEDIAN IMPROVEMENTS is made and entered into effective as of June 30, 1993, by and between CALIFORNIA PRIVATE TRANSPORTATION COMPANY, L.P., a limited partnership formed and existing under the laws of the State of California (together with its transferees, successors and assigns as hereinafter provided, "CPTC"), and THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, acting by and through the Director of Transportation (together with its successors and assigns as hereinafter provided, "Caltrans").

WHEREAS, the California Legislature has passed Assembly Bill 680 as Chapter 107, Statutes of 1989, adding Section 143 to the California Streets and Highways Code, as amended by Assembly Bill 3396, Chapter 1115, Statutes of 1990 (the "Enabling Act"; all other capitalized terms not otherwise defined shall have the meanings specified in Article 2 hereof unless otherwise required by the context) relating to transportation facilities, which Enabling Act was approved by the Governor on July 10, 1989, and filed with the Secretary of State on July 10, 1989; and

WHEREAS, the Legislature found and declared: (i) that it is essential for the economic well-being of the State of California and the maintenance of a high quality of life that the people of the State of California have an efficient transportation system; (ii) that public sources of revenues to provide an efficient transportation system have not kept pace with California's growing transportation needs, and alternative funding sources should be developed to augment or supplement available public sources of revenue; (iii) that an important alternative is privately funded Build-Operate-Transfer projects whereby private entities obtain exclusive development agreements to build, with private funds, all or a portion of public transportation facilities for the citizens of California; (iv) that during the term of the development agreement the private entity will have the right to lease the facility from the State and charge tolls sufficient to retire the private investment in the project (including a reasonable profit), operate and police the facility, maintain the facility, retire any outstanding bonds issued in support of the facility, and to make lease payments to the State; (v) that privately financed projects allow for joint ventures of private and public entities that take advantage of private sector efficiencies in designing and building transportation projects, allow for rapid formation of capital necessary for funding transportation projects, more quickly bring reductions in congestion in existing transportation corridors, require continued compliance with environmental requirements and applicable State and federal laws that all publicly financed projects must address, and offer the traveling public alternate route selections in project areas; and (vi) that Caltrans should be permitted and encouraged to test the feasibility of building privately funded transportation facilities by developing four demonstration projects, and

WHEREAS, the Enabling Act provides that such exclusive development agreements shall provide for the lease of the privately constructed transportation facility to the private entity for an

operating period of up to thirty-five years, after which such facility shall completely revert to the State at no charge to the State; and

WHEREAS, the Enabling Act authorizes Caltrans to exercise any power possessed by it with respect to development and construction of State transportation projects to facilitate the development and construction of the private transportation projects authorized thereunder; and

WHEREAS, the Enabling Act requires that the agreements for maintenance and police services entered into pursuant thereto shall provide for full reimbursement for services rendered by Caltrans or other State agencies to the extent such services are utilized; and

WHEREAS, the Enabling Act provides that the agreements entered into thereunder shall authorize the private entity to impose tolls for the use of a facility constructed by it and shall require over the term of the lease with respect thereto that toll revenues be applied to the payment of the private entity's capital outlay costs for the project, the costs associated with operations, toll collection and administration of the facility, reimbursement for maintenance and police services, and a reasonable return on investment to the private entity; and

WHEREAS, the Enabling Act provides that the agreements shall require any excess toll revenue to be applied to any indebtedness incurred by the private entity with respect to the project or be paid into the State Highway Account, or both; and

WHEREAS, the Enabling Act requires that the plans and specifications for each project constructed thereunder shall comply with Caltrans' standards for Caltrans' projects and that a facility constructed by and leased to a private entity shall, during the term of the lease, be deemed to be a part of the State highway system for purposes of identification, maintenance, enforcement of traffic laws and for the purposes of Division 3.6 (commencing with Section 810) of Title 1 of the California Government Code (the "Tort Claims Act"); and

WHEREAS, as of December 31, 1990 Caltrans entered into a Development Franchise Agreement with California Private Transportation Corporation, a California corporation (the "1990 Franchise Agreement"); and

WHEREAS, the parties amended the 1990 Franchise Agreement pursuant to amendments dated as of January 8, 1992, January 24, 1992, and February 19, 1992 (the "Amendments"); and

WHEREAS, as of December 31, 1990 Caltrans and CPTC had made numerous findings and determinations, as set forth in Sections 1.9 through 1.28 of the 1990 Franchise Agreement, which are hereby restated and incorporated by reference herein; and

WHEREAS, as of March 26, 1992, California Private Transportation Corporation assigned all of its right, title and interest in and to the Franchise Agreement to CPTC, pursuant to the authority granted in Section 17(a)(i) of the 1990 Franchise Agreement; and

1. Preamble

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WHEREAS, Caltrans and CPTC desire to amend and restate the 1990 Franchise Agreement in its entirety to reflect the Amendments and certain other modifications to the Agreement which have been agreed upon by Caltrans and CPTC.

NOW, THEREFORE, in consideration of the mutual promises and covenants herein contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, it is agreed by and between the parties hereto that they will comply with the terms of this Agreement as set forth below, including as applicable the Exhibits hereto.

\* \* \* \* \*

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## Article 3. Franchise Terms

### 3.1. Grant of Franchise.

In accordance with the Enabling Act, Caltrans hereby grants CPTC an exclusive, irrevocable (subject to the express termination rights under Section 3.5 hereof) franchise to perform basic data collection, research, experimental management, and resource evaluation activities as part of the environmental study, and to design, develop, acquire, construct, install and operate the Private Transportation Project, and each Facility (including such related improvements as may be required in the transition areas and zones described in Exhibit A hereto), in accordance with the terms of this Agreement; provided, however, that such grant shall not relieve or exempt CPTC from any permit or approval requirements or zoning restrictions otherwise applicable to the Private Transportation Project or any Facility; provided, further, that CPTC shall have no right hereunder to commence construction of the Private Transportation Project or any Facility until Caltrans has fulfilled its obligations under CEQA related to such Facility and any required Notices of Determination have been filed.

### 3.2. Exclusivity of Rights.

In order to protect the exclusivity of the contract, property and franchise rights granted to CPTC herein and in any Lease, and to safeguard the economic viability of the Private Transportation Project and CPTC's substantial private capital investment therein, Caltrans covenants and agrees as follows:

- (a) Caltrans shall not during the term of this Agreement grant or convey any franchise or other similar regulatory or contract rights to any party other than CPTC in connection with, and will not finance with public funds within Caltrans' discretionary control (either directly or by provision of governmental guarantees of a financial or commercial nature) the design, financing, construction or operation within the Absolute Protection Zone of any public transportation facility, project or program; provided, however, that this covenant shall not apply to any of the following:
  - (i) Any rail passenger systems, except those designed to carry automobiles;
  - (ii) Any improvement to the State Transportation Facility the principal purpose of which is to resolve traffic safety problems, even if such improvement results in incidental increases in the vehicle capacity of the State Transportation Facility; provided, however, that while Caltrans shall in no event be proscribed by this Agreement from implementing transportation safety measures or improvements, no such measures or



improvements shall result in an addition to the State Transportation Facility of any through lanes unless permitted by clause (iii) below;

(iii) Any improvement to the State Transportation Facility solely to effect expanded free capacity for HOV-3's by the addition of one or more outside through lanes in either or both directions and the concurrent redesignation of the innermost lane or lanes adjacent to the Private Transportation Project as HOV-3 lanes. Caltrans has no present plans to construct such HOV-3 lanes on the State Transportation Facility. If Caltrans constructs or allows others to construct such lanes on the State Transportation Facility within Orange County prior to the termination of the Franchise, access to such lanes shall initially be set by Caltrans in consultation with CPTC, the Orange County Transportation Authority, and the Riverside County Transportation Commission, and supported by operational and technical analyses, and such access shall not be modified without similar consultation. Such lanes shall be designed and operated so as to not permanently or materially interfere with the operation of the Private Transportation Project. In consideration of CPTC's undertakings with respect to Authorized HOV-3's as set forth in Exhibit A, Caltrans agrees that construction of additional HOV lanes (other than HOV-3 lanes) on the State Transportation Facility shall be subject to the covenants of Subsection 3.2 (a) if it presents material economic competition or otherwise might reasonably be expected to materially impair CPTC's realization of the Reasonable Return on Investment. This provision shall not be deemed in any way to affect the definitions of high occupancy vehicles in Riverside or Orange counties or limit Caltrans' exercise of its police powers;

(iv) Any installation of IVHS. Such IVHS shall not materially interfere with any AVI installed by CPTC;

(v) Any facility, project or program which does not present economic competition (as described in Subsection (b) below) to the Private Transportation Project; and

(vi) Any improvement, project or facility that may be constructed within the Absolute Protection Zone provided it is not open to the public prior to the Private Transportation Project Lease termination.

(b) For purposes of determining whether a proposed facility, project or program presents economic competition to the Private Transportation Project, there shall be a rebuttable presumption that any such facility, project or program which is, if applicable, designed to Expressway or higher specifications, and which facilitates transportation movements:

(i) In a more or less west-to-east direction (and/or vice versa) *does* present such economic competition; and

- (ii) In a more or less north-to-south direction (and/or vice versa) *does not* present such economic competition, unless such facility, project or program can be shown to provide alternate west-to-east (and/or vice versa) traffic flow in the Absolute Protection Zone.

There shall be a rebuttable presumption that any such facility, project or program which is, if applicable, designed to less than Expressway standards *does not* present such economic competition.

- (c) Caltrans shall, within thirty days of receiving notice or becoming aware of any proposal by the Legislature, the Commission, or any other state or local governmental or quasi-governmental body or private entity concerning the development, design, construction, installation, implementation, ownership or operation of a transportation facility, project, program or regulation within or directly affecting the Notification Zone, will use best efforts to inform CPTC with respect to such proposal. Failure to inform CPTC within thirty days, unless intentional, shall not constitute a Caltrans Default.
- (d) Caltrans shall explain to the Commission and to State and local governmental and quasi-governmental bodies and officials the impacts of developing transportation facilities, projects, programs and regulations which might reasonably be anticipated to present economic competition (as described in Subsection (b) above) to the Private Transportation Project or to affect adversely the Gross Toll Revenues or Total Revenues expected to be generated by the Private Transportation Project. Caltrans shall, no later than sixty days after the issuance of the Notices of Determination for the Initial Facility, recommend to the Commission that the Commission amend the STIP to reallocate the public funds presently budgeted in the 1990 STIP for median improvements to the State Transportation Facility to other State transportation projects outside the Absolute Protection Zone.
- (e) Caltrans covenants that, to the greatest extent possible giving due consideration to the safety of the traveling public, it shall not undertake any action or activity (including, but not limited to that relating to design, construction, maintenance, or traffic management on the Combined Transportation Facility or elsewhere) in any manner which might reasonably be anticipated to interfere materially with CPTC's ability to design, construct, modify, maintain and operate the Private Transportation Project as contemplated herein or which might reasonably be anticipated to affect adversely the volume or the flow of traffic to or from the Private Transportation Project or the Gross Toll Revenues or Total Revenues expected to be generated thereby, and together with its Authorized Caltrans Representative, it shall in good faith cooperate with CPTC and the Authorized CPTC Representative in coordinating all Caltrans actions or activities which could potentially result in such interference or such adverse effect or which present opportunities for maximizing the benefits flowing to or from the Private Transportation Project.
- (f) Caltrans shall provide to CPTC a reasonable advance opportunity to review preliminary and final plans and specifications for any transportation facility or project described in

Subsections (a), (b), (c), (d) or (e) of this Section 3.2 and shall not approve any such facility or project without considering the views of CPTC with respect thereto. Caltrans' obligations under this Subsection (f) shall not limit its other obligations hereunder.

- (g) Caltrans hereby grants CPTC a right of first offer and first refusal during the term of this Agreement with respect to the development and operation of any airspace improvement, over, under, on or within the State Transportation Facility right-of-way (each, a "Proposed Project"), subject to approval of the Commission. CPTC's rights under this Subsection (g) shall be implemented as follows:
- (i) If at any time during the term of this Agreement Caltrans formulates a proposal for, or receives an unsolicited third-party proposal or intends to solicit third-party proposals for, any Proposed Project (other than for construction contracts required under Caltrans' construction procurement procedures to be let on a competitive bid), Caltrans shall, prior to negotiating with any third party in connection with such proposal, or prior to soliciting such proposals from any third party, as the case may be, furnish notice to CPTC setting forth the terms of such proposal or contemplated request for proposals, as the case may be, and afford CPTC a period of not less than ninety days within which to submit (A) CPTC's plan for accomplishing the specified development, design, construction, installation, implementation, ownership or operation of the Proposed Project in accordance with Caltrans' proposal; or (B) CPTC's proposal of terms for accomplishing the development, design, construction, furnishing, installation, ownership or operation of the Proposed Project in accordance with Caltrans' contemplated solicitation of proposals, as the case may be. If CPTC responds with an implementation plan or a proposal, as the case may be, within the aforesaid ninety-day period, Caltrans shall commence and continue for a reasonable period of time (but not less than an additional ninety days) reasonable good faith negotiations with CPTC in an effort to finalize a mutually acceptable contract governing CPTC's participation in the Proposed Project. Caltrans agrees that it shall not conduct any negotiations with any third party in connection with the Proposed Project in question until the earlier of (I) the expiration of the initial ninety-day period without receipt of a plan or proposal, as the case may be, from CPTC; (II) indication by CPTC that it does not wish to pursue participation in such Proposed Project; or (III) the expiration of a reasonable period of time (as described above) during which time reasonable good faith negotiations between Caltrans and CPTC fail to produce a mutually acceptable contract; and
- (ii) If CPTC agrees to mutually acceptable contractual terms in accordance with Subsection (i) above and fails to execute the agreement within the period specified above, CPTC's rights hereunder shall terminate and Caltrans shall have no further obligation to offer such contract to CPTC and shall be free to enter into ~~such~~ contract with any third party at any time within one year thereafter on essentially the same terms.

Costs incurred by CPTC in preparing any airspace proposal shall not be treated as Capital Costs under this Agreement.

**3.3. Franchise Fees.**

CPTC shall pay Caltrans throughout the term of this Agreement a monthly Base Franchise Fee of \$10, payable at least annually in advance commencing January 1, 1991. CPTC shall also pay Caltrans, if applicable, the Variable Franchise Fee and the Excess Franchise Fee as provided in Sections 9.4 and 9.5 hereof, respectively. In the event CPTC is ever thirty days or more delinquent in the payment of any Franchise Fee, Caltrans shall promptly notify CPTC in writing of such delinquency, and CPTC shall have a grace period of thirty days from receipt of such notice to pay such Franchise Fee together with interest thereon from the date such amount was due calculated at the Base Return Rate.

**3.4. Lease and Extension Options**

- (a) To facilitate the development, construction and operation of the Private Transportation Project as authorized by the Enabling Act and in consideration of:
  - (i) Caltrans' reversionary interest in the Private Transportation Project;
  - (ii) Caltrans' rights hereunder to the Variable Franchise Fee and the Excess Franchise Fee;
  - (iii) CPTC's agreement to bear during the Operating Lease Term the administrative costs, police service costs, maintenance costs and other Operating Costs associated with the operation of the Private Transportation Project; and
  - (iv) Rent in the amount of \$1 per year throughout each Construction Lease Term and the Operating Lease Term, provided that CPTC shall be required to prepay the rent for the full term of any Lease upon its execution;

Caltrans hereby:

- (v) Covenants and agrees to lease exclusively and irrevocably (subject to the express termination rights under Section 3.5 hereof) to CPTC, but only after the Notices of Determination have been filed as required by Section 3.1 hereof to evidence environmental clearance, by execution of a Lease for recordation in the county or counties in which the Initial Facility shall be located, all of its right, title and interest in and to the Real Property for the Initial Facility, together with all improvements thereon (including, but not limited to, the Initial Facility) for the Construction Lease Term and the Operating Lease Term. From and after the date of this Agreement, Caltrans shall not transfer, lease or otherwise diminish or encumber its right, title or

interest in the Real Property for the Initial Facility so as to inhibit its ability to lease the Real Property for the Initial Facility to CPTC as aforesaid.

- (vi) Grants to CPTC, unconditional options to lease under an exclusive and irrevocable (subject to the express termination rights under Section 3.5 hereof and the provisions of Subsection (vii) below) Lease, the Real Property for each Facility in addition to the Initial Facility; provided, however, that no such Lease shall be executed by Caltrans until after any Notices of Determination required under CEQA have been filed to evidence environmental clearance with respect to such Facility. The term of the options granted hereby shall expire at the expiration of this Agreement.
- (vii) CPTC's options under clause (vi) above with respect to any Facility shall be terminated if, prior to the execution of a Lease therefor under clause (vi) above, a public entity, including Caltrans, shall achieve environmental clearance for both a free and toll alternative (consistent with the Initial Facility) for improving all or any portion of the Real Property not occupied by the Initial Facility, CPTC's rights under clause (vi) with respect to such portion of the Real Property shall terminate unless (A) CPTC elects to implement the additional Facility thereon and exercises its option for a Lease of the Real Property within 180 days of the filing of the Notices of Determination (or, if applicable, amended Notices of Determination) for such publicly sponsored improvements, and (B) if requested by the public entity, CPTC provides for reimbursement of the public entity's reasonable costs and expenses (as mutually agreed to by CPTC and such public entity) incurred in achieving such environmental clearance. Notwithstanding the foregoing, if CPTC shall not satisfy the provisions of clauses (A) and (B) and the public sponsor of the improvements fails to commence construction of the improvements within three years after the filing of the required Notices of Determination, then CPTC's rights as to such Real Property under clause (vi) above shall be reinstated as of such three year anniversary date.
- (viii) Within forty-five days of CPTC's exercise of any option for Real Property for any additional Facility, or such later date as may be designated by CPTC, Caltrans shall lease exclusively and irrevocably (subject to the express termination rights under Section 3.5 hereof) to CPTC, by execution of a Lease for recordation in the county or counties in which such Facility shall be located, all of its right, title and interest in and to the Real Property therefor, together with all improvements thereon (including, but not limited to, such Facility) for the Operating Lease Term; provided, however, that any Lease granted under the circumstances described in clause (vii) above shall be terminable by Caltrans if CPTC shall not have achieved Construction Commencement with respect to such Facility within eighteen months after the execution date thereof, and any Lease granted under the circumstances described in clause (vi) above shall be terminable by Caltrans if a public entity, including Caltrans, demonstrates the availability of sufficient funds to construct the Facility which is the subject of such Lease and CPTC fails to achieve Construction Commencement of

such Facility within 270 days of such demonstration by the public entity. From and after the date of this Agreement, Caltrans shall not transfer, lease or otherwise diminish or encumber its right, title or interest in the Real Property for any Facility so as to inhibit its ability to lease such Real Property to CPTC as aforesaid.

- (b) Following the execution of this Agreement, and within forty-five days of CPTC's commencement of its efforts to achieve environmental clearance on any additional Facility, or such later date as may be acceptable to CPTC, CPTC shall, on behalf of Caltrans but at CPTC's expense, obtain a title policy report. Concurrently with the execution of the Lease for the Initial Facility or any additional Facility, or such later date as may be acceptable to CPTC, (i) CPTC shall, on behalf of Caltrans but at CPTC's expense, obtain a policy of title insurance insuring CPTC's interest in the Initial Facility or such additional Facility (including all Leasehold Mortgages in respect thereof) or (ii) Caltrans shall provide, at CPTC's expense, reasonable assurance of title acceptable to CPTC, in its sole discretion, in each case, showing or assuring that Caltrans has Title to such Real Property free of all third-party interests therein sufficient to permit the construction and installation of such Facility thereon and to permit operation of the Facility by CPTC as a private toll facility as contemplated herein and in the Lease therefor, without any reimbursement or compensation obligation on the part of CPTC other than the rent payable under such Lease. Upon the closing of any financing of the Initial Facility or any additional Facility, (i) CPTC shall, on behalf of Caltrans but at CPTC's expense, obtain endorsements to the policy of title insurance acceptable to CPTC's Lenders and Leasehold Mortgagees or a mortgagee's policy of title insurance in the amount of the loans and leasehold mortgages for such Facility, or (ii) Caltrans shall provide at CPTC's expense, such other reasonable assurances of title acceptable to CPTC's Lenders and Leasehold Mortgagees, in their sole discretion.
- (c) If it is discovered that there is an encumbrance, residual interest, lien or other defect, or any failure of the Real Property to comply with applicable Laws and Regulations, any of which impairs Caltrans' Title to the Real Property or CPTC's rights to study, design, finance, construct, operate and maintain the Private Transportation Project as contemplated by this Agreement, then Caltrans shall, at CPTC's request but at Caltrans' expense, promptly remove any such exceptions or exclusions set forth in a title report or title insurance policy delivered pursuant to Subsection (b) above or remedy such other impairment or otherwise achieve compliance with applicable Laws and Regulations as required under this Subsection (c). In no event shall any action taken by either CPTC or Caltrans under either this Subsection (c) or Subsection (b) above constitute Caltrans' approval of any Facility under CEQA.
- (d) Time is of the essence as to this Section 3.4.

**3.5. Term of Agreement.**

- (a) This Agreement shall expire on that date on which the Lease with respect to the Initial Facility expires or is otherwise terminated.
- (b) This Agreement may be terminated prior to its expiration upon the occurrence of any of the following:
  - (i) CPTC in its sole and absolute discretion determines prior to Construction Commencement of the Initial Facility that the Private Transportation Project or the Initial Facility is not feasible, for economic or any other reasons, or that pending or threatened litigation arising directly or indirectly from the Private Transportation Project, or any Facility, is likely to have a material adverse effect on the development, construction or operation of the Private Transportation Project as herein contemplated, CPTC's role with respect thereto, or any material provision of this Agreement, the Lease or any other Project Agreement, and CPTC elects, and promptly notifies Caltrans in writing of such election, to terminate this Agreement. CPTC's exercise of its rights under this clause shall relieve CPTC and the CPTC Parties of any and all further liability or obligation to Caltrans;
  - (ii) After the payment in full of all debt financing for the Private Transportation Project (or any Facility) CPTC, in its sole and absolute discretion, determines that its continued operation of the Private Transportation Project, or any Facility, as contemplated hereunder is no longer feasible, for economic or other reasons, including, but not limited to, CPTC's having earned the full Reasonable Return on Investment, or that an event of Force Majeure, a Change in Law, or pending or threatened litigation arising directly or indirectly from the Private Transportation Project (or such Facility) is likely to have a material adverse effect on CPTC's operation of the Private Transportation Project (or such Facility) as herein contemplated, CPTC's role with respect hereto, or any material provision of this Agreement, the Lease or any other Project Agreements, and CPTC elects, and promptly notifies Caltrans in writing of such election, to terminate this Agreement, the Lease and the Project Agreements. CPTC's exercise of its rights under this clause shall relieve CPTC and the CPTC Parties of any and all further liability or obligation to Caltrans; provided, however, that CPTC's exercise of its right of termination hereunder shall in no way compromise or diminish any claim for an Event of Loss or Event of Default which may have occurred on or prior to such date of termination;
  - (iii) A Notice of Determination shall not have been filed for the Initial Facility pursuant to CEQA by December 31, 1993, and Caltrans elects, and gives Preliminary Termination Notice to CPTC and Leasehold Mortgagee of its election, to terminate this Agreement and (A) CPTC shall fail to cure such matter within forty-five days after receipt of such Preliminary Termination Notice, and (B) Caltrans gives Final

Termination Notice to CPTC and Leasehold Mortgagee of its intent to declare this Agreement terminated, and (C) Leasehold Mortgagee or the Substituted Entity shall fail to cure such matter as permitted by Section 16.2 hereof; provided, however, that if Caltrans' failure to comply with any of its obligations under the Project Agreements to which it is a party shall have contributed materially to CPTC's failure to meet the aforementioned milestone date or the cure of such matter as aforesaid, then such milestone date or cure period shall be equitably extended beyond such date when Caltrans has cured its default; provided, further, that CPTC, Leasehold Mortgagee or the Substituted Entity must promptly following such Caltrans cure commence efforts to obtain the Notice of Determination and prosecute such efforts to completion with reasonable diligence;

- (iv) Construction Commencement shall not have occurred by December 31, 1994, subject to any extension for Force Majeure, and Caltrans elects, and gives Preliminary Termination Notice to CPTC and Leasehold Mortgagee of its election, to terminate this Agreement and (A) CPTC shall fail to cure such matter within forty-five days after receipt of such Preliminary Termination Notice, and (B) Caltrans gives Final Termination Notice to CPTC and Leasehold Mortgagee of its intent to declare this Agreement terminated, and (C) Leasehold Mortgagee or the Substituted Entity shall fail to cure such matter as permitted by Section 16.2 hereof; provided, however, that if Caltrans' failure to comply with any of its obligations under the Project Agreements to which it is a party shall have contributed materially to CPTC's failure to meet the aforementioned milestone date or the cure of such matter as aforesaid, then such milestone date or cure period shall be equitably extended beyond such date once Caltrans has cured its default; provided, further, that CPTC, Leasehold Mortgagee or the Substituted Entity must promptly following such Caltrans cure commence efforts to achieve Construction Commencement and prosecute such efforts to completion with reasonable diligence;
- (v) Caltrans determines, and gives Preliminary Termination Notice to CPTC and Leasehold Mortgagee of such determination, that CPTC has actually or constructively abandoned or canceled the Private Transportation Project by discontinuing without excuse the operation thereof as contemplated in this Agreement for a period of thirty consecutive days, and (A) CPTC shall fail, for a period of twenty consecutive days following receipt of such Preliminary Termination Notice to provide Caltrans with a suitable explanation for such discontinuation or to resume operations, and (B) Caltrans determines that no suitable explanation for such discontinuation has been given and that operations have not been resumed and thereafter declares a CPTC Default and pursues the course of action described in Section 14.1 hereof and clause (vi) below; provided, however, that if Caltrans' failure to comply with any of its obligations under the Project Agreements to which it is a party shall have contributed materially to CPTC's failure to correct such matter, then Caltrans' right to declare a CPTC Default shall be suspended for so long as Caltrans shall remain in noncompliance under any said Project Agreement;



- (vi) After Caltrans' issuance of a Final Default Notice under Section 14.1 hereof, Caltrans elects under Subsection 14.2(b) to terminate this Agreement and gives Final Termination Notice to CPTC, its Lenders and Leasehold Mortgagees of such election to terminate and its Lenders, Leasehold Mortgagees or its Substituted Entity shall fail to cure such matter as permitted by Section 16.2 hereof; or
- (vii) CPTC's interests in the Private Transportation Project and the Project Agreements are acquired by Caltrans.
- (c) Caltrans agrees that if at the expiration of this Agreement and the Lease CPTC shall not have fully recovered the Reasonable Return on Investment allowable hereunder, then Caltrans shall exercise its best efforts to seek and obtain legislative authorization to extend and renew the term of this Agreement and the Lease for a period sufficient to enable CPTC to recover all such unrecovered amounts of Reasonable Return on Investment.

### 3.6. Reports.

- (a) CPTC shall, within 120 days after the later of (i) the Acceptance Date for a Facility or (ii) the closing of the permanent debt financing for a Facility, submit to Caltrans a statement of the Capital Costs at Completion with respect to the Facility covered by the related Notice of Acceptance, including the Construction Period Capital Return, which statement will be prepared by CPTC in accordance with this Agreement and, to the extent applicable, GAAP, and audited by a nationally recognized independent accounting firm selected by CPTC and approved by Caltrans.
- (b) CPTC shall, within 120 days of the end of each Fiscal Year during the Operating Lease Term, submit to Caltrans a copy of CPTC's annually audited financial statements, and statements based on such financial statements, setting forth the following information:
  - (i) The amount of Total Revenues and Gross Toll Revenues received in such Fiscal Year;
  - (ii) The Operating Costs expended in such Fiscal Year (including a statement of cash benefits paid to government entities in such Fiscal Year, such as Taxes, franchise fees and other amounts), including the federal and state taxes CPTC shall be deemed to have paid for such Fiscal Year;
  - (iii) The Capital Costs expended in such Fiscal Year;
  - (iv) The Available Cash Flow for such Fiscal Year;

- (v) The Base Return Rate, including the amount of any incremental adjustments for indexing and Incentive Return on Investment permitted hereunder, and the results of the Base NPV and Total NPV calculations under Article 9 hereof;
- (vi) If applicable, a demonstration of the level of increased Annual Peak Hour Vehicle Occupant Volume under Section 9.3 hereof;
- (vii) The amount of Variable Franchise Fee, if any, to be paid to Caltrans in such Fiscal Year;
- (viii) The amount of Excess Franchise Fee, if any, to be paid to Caltrans in such Fiscal Year; and
- (ix) The size and changes in reserve accounts during such Fiscal Year.

In order to facilitate the identification of the information reported above, CPTC shall maintain a separate self-balancing set of accounts that relate exclusively to the Private Transportation Project. Such accounts shall include all assets, liabilities, operating revenues, and operating expenses, and be maintained in accordance with GAAP.

- (c) The statements described above shall be for the Private Transportation Project only, shall be prepared by CPTC in accordance with this Agreement and GAAP and shall be audited by a nationally recognized independent accounting firm selected by CPTC and approved by Caltrans. Such statements shall include notes on reported information identifying the basis of calculations made and the underlying assumptions, and shall include a report on CPTC's system of internal accounting control under the applicable standards required by the AICPA. The statements shall be submitted to Caltrans in a format substantially similar to the format demonstrated in Exhibit J or such other format as is reasonably acceptable to Caltrans. The final format of such statements shall be determined by CPTC, subject to approval by Caltrans. In the preparation of the aforesaid reports, CPTC shall identify all Capital Costs, Operating Costs and all transactions with Related Parties or Constituent Members which, in the reasonable good faith judgment of CPTC, do not meet any of the following criteria:
  - (i) Are expressly permitted by this Agreement;
  - (ii) Are less than 110% of the amounts which Caltrans would have likely paid for comparable goods or services;
  - (iii) Are consistent with generally available commercial list prices;
  - (iv) Are justifiable by life cycle analysis, accelerated delivery or completion of goods or services;

- (v) Are consistent with industry practices; or
- (vi) (A) Are on terms (including but not limited to price) more favorable to CPTC than those available in the normal course of business with parties which are not Related Parties or Constituent Members or (B) have been negotiated by CPTC and the party providing the goods or services on an arm's length basis.
- (d) In addition to the auditor's report required above, the independent auditor shall submit to Caltrans reports on: (i) CPTC's system of internal accounting controls under the applicable standards required by the AICPA; and (ii) CPTC's compliance with the terms of Section 13.2(h) hereof.
- (e) Caltrans may, at its own expense, conduct an audit verifying that the audits required in this Section 3.6 were conducted in accordance with generally accepted auditing standards. If Caltrans determines, on the basis of such audit, that the independent auditor's audit described above was not conducted in accordance with such standards, then Caltrans shall notify CPTC of the scope of any additional audits which Caltrans requires to be performed, and such additional audits shall be performed at CPTC's expense by a new independent auditor selected by CPTC and approved by Caltrans. CPTC will cause the new audit to be completed within 120 days of Caltrans' approval of the new auditor.

### 3.7. Opinion of Caltrans Chief Counsel.

Caltrans shall furnish concurrently with the execution of this Agreement and the Lease, and when requested by CPTC in the course of obtaining debt or equity financing for the Private Transportation Project, an opinion of Caltrans' Chief Counsel substantially in the form attached hereto as Exhibit E.

### 3.8. CPTC Property.

The parties agree that CPTC's property, franchise and other contract rights created or recognized by this Agreement, the Lease and the other Project Agreements to use and enjoy the Real Property and the Private Transportation Project in the manner, to the extent and for the purposes authorized and contemplated by the Project Agreements, constitute valuable property of CPTC (collectively, "CPTC Property").

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## Article 4. Private Transportation Project Implementation

### 4.1. Design.

- (a) **CPTC's Rights and Responsibilities.** CPTC shall be responsible for designing each Facility undertaken hereunder, which may be accomplished based on a Design-Build method of project implementation. All such design shall be in accordance with the applicable Design Standards referenced and set forth in Exhibit C hereto as in effect as of December 31, 1990 or, as to any Facilities subsequent to the Initial Facility, as of the date of exercise of the option for the Real Property therefor. CPTC and its architects, engineers and contractors shall assume all professional responsibility for the accuracy and completeness of all data and material provided to Caltrans.
- (b) **Caltrans' Rights and Responsibilities.** Caltrans shall have the right to review and to approve CPTC's design prior to commencement of construction of any Facility; provided, however, that such approval shall be limited to validating that the design is in accordance with the Design Standards as required under Subsection (a) above. Caltrans agrees to provide copies of its approvals to CPTC's Lenders and Leasehold Mortgagees upon CPTC's request. As requested by CPTC, Caltrans shall make personnel available (at CPTC's design location if requested by CPTC) for Oversight Services during all phases of design, preparation of Plans and Specifications and preparation of estimates. In the event that CPTC does not request concurrent Caltrans review at CPTC's design locations, Caltrans will comment and provide documented objections or approvals within twenty-one days of receipt of documents, plans and drawings as provided in Section 18.1 hereof, provided, however, complicated plans and large amounts of plans will allow the time to be extended by mutual agreements. Caltrans shall, upon CPTC's request and at CPTC's cost and expense, undertake detailed review or checking of the design, related details or the accuracy with which such designs are depicted on CPTC's proposed Plans and Specifications but otherwise shall not be required to undertake such level of review.
- (c) **Critical Safety Compliance Orders.** The Authorized Caltrans Representative may issue during the design of any Facility, and CPTC shall comply with, Critical Safety Compliance Orders, provided that the modifications required thereby are to the same extent being imposed on State-funded transportation facilities of substantially equivalent character at the same stage of development as the Facility affected by such Critical Safety Compliance Orders; provided, however, that for purposes of meeting any milestone dates imposed by Section 3.5 hereof, such Critical Safety Compliance Orders may, at CPTC's election, be deemed an event of Force Majeure to which the provisions of Section 11.1 hereof shall apply. Amounts expended and costs incurred to comply with any such Critical Safety

Compliance Order may, as appropriate, be treated by CPTC as Capital Costs or Operating Costs; provided, however, that any amounts of Variable Franchise Fee applied to defray such costs as permitted by Section 9.5 hereof shall not be treated as either Capital Costs or Operating Costs.

**4.2. Environmental.**

- (a) **CPTC's Rights and Responsibilities.** CPTC shall use best efforts to obtain all environmental clearances required by State and federal law for each Facility undertaken hereunder. CPTC will prepare all documentation for environmental clearance and any environmental analysis required for permits and approvals necessary to the construction and operation of the Private Transportation Project, or Facilities, as contemplated by this Agreement. Data, material and documents will be reviewed for conformity with CEQA, and, if necessary, NEPA requirements.
- (b) **Caltrans' Rights and Responsibilities.** If requested by CPTC, Caltrans will provide Technical Services in connection with CEQA and, if necessary, NEPA. In addition to such Technical Services, CPTC may request additional technical assistance and concurrent review by Caltrans personnel assigned to support CPTC's proposal processes and documentation in the development of an acceptable environmental document.
- (c) **Approval.** CPTC and Caltrans both recognize and concur that final approval of any Facility by Caltrans is expressly contingent upon completion of environmental review under CEQA. CPTC shall have no right hereunder to commence construction of any Facility, until Caltrans has fulfilled its obligations under CEQA related to such Facility and any required Notices of Determination have been filed.
- (d) **No-build Alternative.** It is understood by both parties that a "no-build" alternative may be the final alternative selected.
- (e) **Evidence of Approval.** Completion of the environmental review process with respect to each Facility, as evidenced by the filing of any Notices of Determination required under CEQA, shall constitute evidence of the required approval to proceed with implementation of such Facility pursuant to the terms of this Agreement, including any such modifications thereto as shall have been necessary in order to obtain such approval.

**4.3. Permits and Agreements.**

- (a) **CPTC's Rights and Responsibilities.** CPTC shall use best efforts to obtain all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the prosecution of the work entailed by the implementation of each Facility undertaken.

- (b) **Caltrans' Rights and Responsibilities.** Subject to reasonable restrictions and conditions regarding the safety and operation of the State Transportation Facility and the safety of the traveling public as established by Caltrans, Caltrans shall, immediately upon CPTC's request, grant such encroachment permits as may be reasonably necessary for the expedient prosecution of CPTC's activities hereunder (including but not limited to such encroachment permits, containing standard conditions and provisions, as may be reasonably necessary to permit CPTC, its employees and its contractors to operate and maintain the Private Transportation Project, irrespective of whether Caltrans is providing any such service to CPTC). Caltrans will provide timely assistance to CPTC with respect to CPTC's permit processes and negotiations for agreements with local governmental entities in the development of the Private Transportation Project. Caltrans will, upon request, assist CPTC in preparing and presenting materials required to obtain any permits, approvals or zoning relief required to design, construct, acquire, install and/or operate the Private Transportation Project or any Facility. Caltrans shall be reimbursed for reasonable costs incurred as a result of its efforts expended on behalf of and at the request of CPTC.

#### 4.4 Construction.

- (a) **CPTC's Rights and Responsibilities.** CPTC shall be responsible for constructing (using its own forces or contracted forces of a prime contractor properly licensed in the State) and obtaining all necessary permits and approvals for each Facility undertaken. CPTC may implement phased or staged development and construction in accordance with the Design-Build method of project implementation. Once construction has commenced, CPTC shall use due diligence to complete such Facility.
- (b) **Caltrans' Rights and Responsibilities.** Caltrans will provide Oversight Services in the form of on-site personnel as provided in Section 4.5(b) hereof.
- (c) **Standards.** Construction of each Facility, whether undertaken by CPTC, its contractors or any subcontractor, shall be in accordance with the applicable Construction Standards and applicable Standard Specifications referenced and set forth in Exhibit D hereto as in effect as of December 31, 1990 or, as to any Facilities subsequent to the Initial Facility, as of the date of exercise of the option for the Real Property therefor, exclusive of any provisions relating to Caltrans' procurement procedures and standards.
- (d) **Payment and Performance Bonds.** CPTC shall, for the construction of each Facility, furnish or cause to be furnished payment and performance bonds or completion guarantees acceptable to CPTC's construction financing Lender, but in no event shall the same be less than the amounts required under California Civil Code Section 3248. Such bonds or guarantees shall be issued by a surety licensed to do business in California and shall provide that all alterations, extensions of time, additional work and other changes authorized by this Agreement or Critical Safety Compliance Orders may be made without further consent by the surety or sureties providing the bonds or the guarantees. Copies of the bonds or

guarantees shall be furnished to Caltrans not later than Construction Commencement with respect to any Facility.

- (e) **Critical Safety Compliance Orders.** The Authorized Caltrans Representative may issue during the construction phase for any Facility, and CPTC shall comply with, Critical Safety Compliance Orders provided that the modifications required thereby are to the same extent being imposed on State-funded transportation facilities of substantially equivalent size and character at the same stage of development as the Facility affected by such Critical Safety Compliance Orders; provided, however, that for purposes of meeting any milestone dates specified in Section 3.5 hereof, such Critical Safety Compliance Orders may, at CPTC's option, be deemed an event of Force Majeure to which the provisions of Section 11.1 hereof shall apply.

#### 4.5. Personnel and Administration.

- (a) **CPTC's Rights and Responsibilities.** CPTC shall designate an Authorized CPTC Representative (and an alternate) to represent CPTC at all times through the course of development, property acquisition, design, construction and operation of the Private Transportation Project. CPTC shall have exclusive control over the assignment and replacement of its personnel, contractors and subcontractors on the Private Transportation Project.
- (b) **Caltrans' Rights and Responsibilities.** Caltrans shall designate a primary Authorized Caltrans Representative charged with the full responsibilities of Caltrans hereunder in connection with the implementation of each Facility undertaken hereunder, including, but not limited to, overseeing CPTC's compliance with the applicable Construction Standards as described in Exhibit D and coordinating Oversight Services with CPTC's project implementation schedule. Caltrans may in its reasonable discretion replace its personnel dedicated to the Private Transportation Project or any Facility; provided, however, that Caltrans shall not arbitrarily or without good cause (e.g., for reasons of the employee's request, criminal activity or inadequate performance) remove, replace or reassign the primary Authorized Caltrans Representative referenced above unless CPTC consents thereto; provided further, that upon CPTC's reasonable request, Caltrans shall for cause remove and replace such primary Authorized Caltrans Representative with a substitute reasonably acceptable to CPTC.
- (c) **Co-located Personnel.** To the extent requested by CPTC and permitted under existing Caltrans policies and procedures and the Laws and Regulations all existing at the time of the request, Caltrans will co-locate its Oversight Services personnel with CPTC's personnel at the California sites of CPTC's work production in order to assist in expediting concurrent review and approval of CPTC's documents related to the Private Transportation Project.

- (d) **Files.** CPTC shall maintain at its address specified in Section 18.18 hereof a set of project files indexed in accordance with Caltrans' Project Development Uniform File System.

**4.6. Public Safety.**

In the performance of the activities authorized under this Article, CPTC agrees to furnish, direct and maintain, or cause to be furnished, directed and maintained, such fences, temporary railing, barricades, lights, signs and other devices and take such other protective measures as are required by applicable Caltrans standards.

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## Article 6. Operations and Maintenance

### 6.1. Operations.

- (a) **Traffic Operations Plan.** Prior to the execution of a Lease with respect to a Facility, CPTC shall submit to Caltrans for its approval a Traffic Operations Plan (the "Traffic Operations Plan"), which approval will not be unreasonably withheld. The Traffic Operations Plan is intended solely to assure that the Private Transportation Project is operated in a safe and efficient manner consistent with the adjacent public transportation facilities and shall not in any way infringe upon CPTC's rights as set forth in Section 6.1(b) hereof. CPTC shall submit any revision or amendment to the Traffic Operations Plan to Caltrans for its review and approval, which approval will be granted unless Caltrans presents a competent engineering analysis showing that the proposed change would measurably reduce the safety of the traveling public on the Combined Transportation Facility and connecting State transportation facilities. Any dispute arising under this Section 6.1(a) shall be subject to the provisions of Article 15 hereof.

The Traffic Operations Plan shall include an operational traffic analysis of the Private Transportation Project and its interface with the connecting and adjacent public facilities. The following information and relevant underlying assumptions shall be provided for the peak a.m. and p.m. periods and other timeframes in which the operation of the Private Transportation Project changes from that in effect during the peak period operation and for operating scenarios other than the initial operating scenario:

Existing and projected volumes;

Ingress and egress locations;

Types of vehicles allowed or excluded from the Private Transportation Project;

Weaving lengths under anticipated traffic flow patterns;

Connections at each end of the Private Transportation Project;

Enforcement areas and procedures; and

Delays and queues.

- (b) **CPTC's Rights and Responsibilities.** From and after the Acceptance Date as to any Facility, CPTC shall be responsible for performing, or causing to be performed, the

administrative, toll collection and (except as provided in Subsection (c) below) the Traffic Management activities associated with the operation of such Facility for use by the general public in accordance with applicable Caltrans safety standards. CPTC is expressly authorized, subject to Caltrans' prior approval, to establish and implement additional safety policies, including, but not limited to, rules governing the use of the Private Transportation Project for the transportation of hazardous materials and dangerous loads and the issuance of transportation permits, provided that such policies shall not be less stringent than those established by Caltrans for the State Transportation Facility. Operations of the Private Transportation Project may be interrupted as CPTC may determine to be necessary or advisable for reasons of, among other things, construction, modification, security, and public safety but only in such manner as is not inconsistent with the Traffic Operations Plan. Caltrans retains the right to enter the Private Transportation Project to keep it open if it is closed by CPTC in a manner inconsistent with this Agreement or the Traffic Operations Plan.

CPTC or its operations contractor will use its best efforts to manage all operational surveillance equipment, driver information signs (including changeable message signs), toll collection equipment and related components of the Private Transportation Project so as to optimize traffic operations within the Private Transportation Project and the Total Revenues and Gross Toll Revenues derived therefrom. CPTC is expressly authorized to erect and maintain, in accordance with applicable published Caltrans standards, such informational signs and other traffic control devices as may be necessary and convenient to implement its rights and obligations hereunder. CPTC shall be free to install and use video, photographic and other forms of surveillance equipment for traffic management, toll enforcement and related purposes. Said signs and equipment shall be subject to the restrictions contained in any applicable encroachment permits issued by Caltrans under Section 4.3(b) hereof.

CPTC shall keep the Private Transportation Project open 24 hours per day, every day, except where reasonably required for maintenance or emergencies, or unless the Traffic Operations Plan provides, or has been amended to provide, for operation of the Private Transportation Project for a lesser period.

- (c) **Caltrans Rights and Responsibilities.** Caltrans shall provide Oversight Services for Traffic Management activities on the Private Transportation Project to ensure compliance with applicable Caltrans operational standards. CPTC may contract to engage Caltrans to perform the Traffic Management activities on any Facility in accordance with all applicable Caltrans standards and guidelines, which Caltrans hereby agrees to perform on mutually agreeable reasonable terms and conditions. Caltrans further agrees that if it is engaged by CPTC to perform such Traffic Management activities, it will use all best efforts to coordinate such activities with CPTC's toll collection activities so as to comply with applicable Caltrans safety standards and maximize the Total Revenues and Gross Toll Revenues generated by the Private Transportation Project. In the event CPTC does not engage Caltrans to perform such Traffic Management activities, Caltrans shall perform

reasonable Oversight Services to monitor CPTC's compliance with applicable Caltrans' Traffic Management standards, whether contracted to third parties or performed by CPTC's own forces. Speed limits and oversize, overweight and overlength restrictions set by CPTC for the Private Transportation Project shall not exceed limits established for the State Transportation Facility or public High Occupancy Vehicle lanes.

- (d) **Tolls.** CPTC shall be entitled to establish, levy and collect tolls, fees and charges for the use of the Private Transportation Project or any Facility except during any period in which the running of the Operating Lease Term with respect thereto shall have been suspended under Section 16 of the Lease due to an event of Force Majeure. CPTC may in its sole discretion, without regulation or participation of Caltrans, establish and impose, and may subsequently modify, schedules of tolls, fees and charges for all classes and levels of use of the Private Transportation Project, subject to the provisions of Section A.1 of Exhibit A hereto. CPTC is hereby specifically authorized to implement congestion pricing and other variable schedules or schedules of tolls, fees and charges and other traffic management practices so as to respond to dynamic traffic flows and maintain the highest practicable levels of service. CPTC is expressly authorized to limit access to the Private Transportation Project to certain categories or types of vehicles. CPTC shall be free to adjust tolls, fees and charges and to enter into special toll arrangements with important users of the Private Transportation Project at any time without prior notice, approval or evaluation and is not subject to any laws or regulations relating to the control of tolls, fees, rates, charges or prices by the Public Utilities Commission, Caltrans or any other agency, division or subdivision of the State.
- (e) **AVI.** In addition to manual toll collection methods, CPTC is expressly authorized to implement AVI methods for toll collection, Traffic Management, accounting and other purposes as contemplated hereunder in accordance with applicable Caltrans standards governing the use of AVI technology. CPTC may require users of the Private Transportation Project to obtain and utilize AVI equipment appropriate thereto. CPTC shall be free to use non-AVI systems such as cellular telephones, satellites, video scanning and other methods for vehicle identification and toll collection purposes. CPTC shall be free to select AVI transponder distribution methods and procedures which methods may involve wholesale and retail outlets outside the Private Transportation Project right-of-way. Any AVI records maintained by CPTC shall be considered private and confidential business records of a proprietary nature and shall not under any circumstance be considered public records. Any costs and revenues related to AVI equipment not installed or operated as a part of the Private Transportation Project, and those related to AVI component sales to private parties, shall not be counted as Capital Costs, Operating Costs or Total Revenues.(f) **Uniforms.** Any personnel collecting tolls and other charges for use of the Private Transportation Project shall at all times be in uniform, identified as employees of CPTC or its contractor and not as employees of Caltrans. Such uniforms shall be subject to Caltrans' reasonable approval to assure only that any badges, lettering, color, or other styling is sufficiently differentiated from uniforms worn by Caltrans personnel.

- (g) **Shared Services.** The parties hereto recognize that cost efficiencies may be achieved in the provision of shared operations services for the Private Transportation Facility, the State Transportation Facility and other State transportation facilities in the region, through a sharing of operations personnel and costs (on a vehicle-miles-traveled or other equitable basis), and the parties hereto shall use their best efforts to achieve such efficiencies.

**6.2. Maintenance.**

- (a) **CPTC's Rights and Responsibilities.** Prior to commencement of operations for any Facility, CPTC shall have submitted to Caltrans for its approval a maintenance plan for such Facility (which, to the extent that CPTC engages Caltrans to perform maintenance services, shall be the work plan adopted pursuant to the related Maintenance Agreement). From and after the Acceptance Date for any Facility, CPTC shall maintain or cause to be maintained such Facility in accordance with then applicable published Caltrans maintenance schedules and standards. CPTC may engage Caltrans to maintain some or all of the non-toll collection components of any Facility pursuant to a Maintenance Agreement. CPTC also shall be entitled to perform such maintenance for its own account or engage a third party to perform some or all of such services. For such services as to which CPTC elects not to engage Caltrans, Caltrans shall undertake Oversight Services to monitor CPTC's compliance with Caltrans' applicable maintenance standards, subject to reimbursement as provided in Section 18.2 hereof. CPTC, or its contractor, shall maintain toll collection facilities, machinery and any other toll operation equipment.
- (b) **Caltrans' Rights and Responsibilities.** If CPTC contracts with Caltrans to provide maintenance services as provided in Subsection (a) above, Caltrans will perform roadway, bridge, sign, lighting, landscape, fencing and other maintenance services, as set forth in the Maintenance Agreement. Caltrans will not maintain toll collection facilities, machinery or any other toll operation equipment. Caltrans, when performing maintenance work for CPTC, will conform to all Caltrans maintenance manuals, maintenance directives, policy and procedure memorandums, and applicable Critical Safety Compliance Orders. If CPTC does not contract with Caltrans for such maintenance services, then Caltrans shall provide Oversight Services for maintenance performed on the Private Transportation Project to monitor compliance with applicable Caltrans maintenance standards.
- (c) **Maintenance Manuals.** Caltrans shall furnish all maintenance manuals, maintenance directives, policy and procedure memorandums, and applicable Critical Safety Compliance Orders and all amendments or modifications thereto to CPTC on a timely basis. Receipt of the manuals by CPTC shall constitute notice as to the contents therein. CPTC shall not be held responsible for implementing any changes to any such Caltrans maintenance schedules and standards expressed in such sources unless and until a manual is received or actual reasonable notice thereof is given to CPTC.

- (d) **Traffic Control.** CPTC and any of its contractors, including Caltrans, performing maintenance work within or on the Private Transportation Project right-of-way, including ramps, feeders, interchanges or connectors into other State highways, will conform to then applicable published Caltrans standards relative to signing, cone and barricade placement, equipment requirements, traffic control methodology, traffic management plans, and safety standards.
- (e) **Service Interruption.** If maintenance, repair or alteration work necessitates significant interruption or restriction of the flow of traffic on the Private Transportation Project, the maintenance service provider (whether such shall be Caltrans, CPTC or a third party) shall give at least thirty days advance written notice thereof to Caltrans and CPTC, except in case of emergency. The maintenance service provider shall perform such activities so as to minimize the adverse consequences to users of the Private Transportation Project, including minimizing the interruption or restriction of traffic flow thereon, while complying with Caltrans' applicable safety standards.

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## Article 9. Finance

### 9.1. Reasonable Return on Investment.

As compensation for designing, financing, constructing and operating the Private Transportation Project, CPTC shall be entitled to a Reasonable Return on Investment, which shall be comprised of the Base Return on Investment, and, upon demonstration of improved performance measured by increased Annual Peak Hour Vehicle Occupant Volume, the Incentive Return on Investment, which returns on investment shall be calculated as provided in this Article 9.

### 9.2 Base Return on Investment.

- (a) The Base Return Rate shall be seventeen percent, subject to adjustments as provided herein (as adjusted, the "Base Return Rate").
- (b) At the end of each Fiscal Year during the Operating Term, CPTC shall derive the net present value of the Base Return on Investment (the "Base NPV") by subtracting:
  - (i) The Capital Costs at Completion, from
  - (ii) The sum of present values, as of the Acceptance Date of the Initial Facility, of each prior Fiscal Year's Available Cash Flow retained by CPTC as Base Return on Investment, discounted at the Base Return Rate for that Fiscal Year as though Available Cash Flow in each Fiscal Year were retained at the end of such Fiscal Year.

The parties hereto acknowledge and agree that the Base Return Rate is based upon an assumption that the capital structure contemplated in CPTC's Original Pro Forma shall not have to be adjusted prior to the Acceptance Date. If, however, it shall be necessary to adjust such capital structure prior to the Acceptance Date in response to changing financial markets, a change in the capital structure contemplated in CPTC's Original Pro Forma, or other circumstances, CPTC may at its option petition Caltrans for an adjustment in the Base Return Rate to reflect the impact of such changed conditions. If so petitioned, Caltrans may grant CPTC an equitable increase in the Base Return Rate.

### 9.3. Incentive Return on Investment.

- (a) It is Caltrans' objective to encourage CPTC to establish, implement, maintain and refine such toll structures, traffic operations procedures and other measures as may be within CPTC's control so as to maximize the number of vehicle occupants traveling on all or part

of the Combined Transportation Facility during peak demand periods while maintaining applicable safety standards. To such end, CPTC shall have the right, but not the obligation, to modify and improve, subject to compliance with applicable environmental and permitting requirements and subject to Caltrans approval as provided under Section 5.1 hereof, the Private Transportation Project so as to encourage and accommodate higher Annual Peak Hour Vehicle Occupant Volumes. Such measures may include, but shall not be limited to, the financing, design, construction and operation of "park and ride" lots, bus systems and other mass transit services, provided that such measures shall be in accordance with applicable Caltrans standards. At CPTC's option, such modifications and improvements shall be accepted by Caltrans as part of the Private Transportation Project and the costs associated therewith shall be treated as Operating Costs or Capital Costs, as appropriate, under this Agreement.

- (b) CPTC shall for any Fiscal Year be entitled to adjust the Base Return Rate by incentive increments calculated in accordance with Subsection (d) below upon a demonstration in accordance with Subsection (c) below of increased Annual Peak Hour Vehicle Occupant Volume on the Combined Transportation Facility during such Fiscal Year as measured against the Base Peak Hour Vehicle Occupant Volume.
- (c) To demonstrate increased Annual Peak Hour Vehicle Occupant Volume for purposes of Subsection (b) above, CPTC shall, at its own cost and expense:
  - (i) Record vehicle counts on the Combined Transportation Facility at the Vehicle Count Location using automatic vehicle detection equipment;
  - (ii) Determine the Peak Hour Vehicle Count;
  - (iii) Obtain an Estimate of Average Vehicle Occupants for such Fiscal Year;
  - (iv) Determine the Annual Peak Hour Vehicle Occupant Volume for such Fiscal Year; and
  - (v) Determine the percentage change in the Annual Peak Hour Vehicle Occupant Volume under clause (iv) above over the Base Peak Hour Vehicle Occupant Volume.
- (d) If the percentage number determined under clause (c)(v) above is positive, CPTC shall be entitled to the Incentive Return on Investment, calculated by adjusting the Base Return Rate for that Fiscal Year upward by increments of twenty basis points (0.20%) for each one percent increase in Annual Peak Hour Vehicle Occupant Volume; provided, however, that the total of such incremental increases shall not exceed six hundred basis points (6.0%) in any Fiscal Year (such adjusted rate shall hereinafter be referred to as the "Incentive Return Rate").

- (e) At the end of each Fiscal Year, CPTC shall derive the net present value of the Reasonable Return on Investment (the "Total NPV") by subtracting:
- (i) The Capital Costs at Completion, from
  - (ii) The sum of the present values, as of the Acceptance Date of the Initial Facility, of the amount of each prior Fiscal Year's Available Cash Flow retained by CPTC as Reasonable Return on Investment under Section 9.5 hereof, discounted at the Incentive Return Rate for such Fiscal Year determined under Subsection (d) above as though Available Cash Flow in each Fiscal Year were retained at the end of such Fiscal Year.

**9.4. Excess Franchise Fee.**

After all Reasonable Return on Investment has been recovered as described above, all remaining Available Cash Flow for any Fiscal Year shall be considered "excess toll revenues" under the Enabling Act and shall be paid as Excess Franchise Fee to the State Highway Account.

**9.5. Retention of Return; Payment of Variable and Excess Franchise Fee.**

- (a) CPTC shall be entitled to retain as Base Return on Investment all Available Cash Flow in any Fiscal Year (or portion thereof) unless and until the Base NPV is zero (0) or greater. Whenever such Base NPV is zero (0) or greater, and for so long as the Base NPV remains zero (0) or greater, the provisions of Subsection (b) below shall govern CPTC's right to further retain Available Cash Flow.
- (b) Whenever the Base NPV is zero (0) or greater, the Available Cash Flow shall be available for payment of the Incentive Return on Investment, the Variable Franchise Fee and/or the Excess Franchise Fee as follows:
  - (i) CPTC shall be entitled to retain as Incentive Return on Investment 50% of the Available Cash Flow in any Fiscal Year (or portion thereof) whenever the Total NPV is less than zero (0), and the remaining 50% of the Available Cash Flow in such Fiscal Year shall be paid to Caltrans as the Variable Franchise Fee.
  - (ii) Whenever the Total NPV is zero (0) or greater, all of the Available Cash Flow shall be paid as Excess Franchise Fee to the State Highway Account. The Excess Franchise Fee, if payable, shall be due upon delivery of the report required to be submitted to Caltrans under Section 3.6 hereof.



**9.6. Taxes.**

CPTC shall be solely responsible, as part of its Capital Costs and Operating Costs, for the payment of all Taxes provided, however, that to the extent that Taxes are imposed:

- (a) In respect of any of the Franchise Fees;
- (b) Upon the transfer of CPTC-owned interests in real property pursuant to Section 8.2(a) hereof; or
- (c) Upon CPTC's surrender of the improvements on the Real Property at the expiration or earlier termination of the Lease as provided in Section 8.2(b) hereof,

the Franchise Fees payable to Caltrans hereunder shall be reduced by the amount of such Taxes deemed to have been paid in connection therewith, as set forth in the definition of "Operating Costs." Notwithstanding the foregoing, the Real Property and the Private Transportation Project shall at all times be considered property owned by Caltrans.

**9.7. Reserve Funds.**

Solely for the purposes of making the calculations required under this Article 9, including the calculation of Capital Costs, Operating Costs and Available Cash Flow, CPTC's reserve funds shall be limited to the following funds and amounts, irrespective of whether the same shall be capitalized or expensed:

- (a) A working capital reserve fund, the amount in which shall be limited to 180 days' projected Operating Costs;
- (b) A major maintenance reserve fund, the amount in which shall not be limited but annual contributions thereto shall be limited to one percent of the Capital Costs at Completion increased each Fiscal Year by multiplying such Capital Costs at Completion *TIMES* a fraction the numerator of which shall be CPI as of the date of such adjustment and the denominator of which shall be CPI as of the Acceptance Date;
- (c) A capital improvements reserve fund, the amount in which shall be limited to fourteen percent of the Capital Costs at Completion, increased each Fiscal Year by multiplying such Capital Costs at Completion *TIMES* a fraction the numerator of which shall be CPI as of the date of such adjustment and the denominator of which shall be CPI as of the Acceptance Date;
- (d) A debt service reserve fund, the amount in which shall be no more than the maximum debt service for any consecutive eighteen-month period, provided that the amount in such reserve may be increased to the maximum debt service for any consecutive twenty-four-month period if required by Lender, and provided further that the amount in such reserve

may be increased to the maximum debt service for any consecutive thirty-six month period as may be required by CPTC's Lender on account of CPTC's commitments regarding High Occupancy Vehicle operations contained in Exhibit A hereto; and

- (e) Without duplication and with the approval of Caltrans, which will not be unreasonably withheld, any other reserve fund established by CPTC's Lenders, or any other amounts, which under the terms of CPTC's agreements with such Lenders, cannot be distributed to CPTC or its Constituent Members.

At the expiration or earlier termination of the Operating Lease Term, the amounts remaining in any reserves so established, including all retained interest therein, after application of any such reserves to payment of reserved but unpaid Operating Costs and Reasonable Return on Investment, shall be paid to the State Highway Account.

#### **9.8. Priority of Payments.**

In the event that Total Revenues are insufficient to pay all Operating Costs, CPTC shall first pay police and maintenance service costs. Any remaining revenues may be applied by CPTC at its sole discretion for the then applicable Fiscal Year.

#### **9.9. Finance Obligations.**

- (a) CPTC's Obligations. CPTC shall be responsible for obtaining any financing for the construction and operation of the Private Transportation Project.
- (b) Caltrans' Obligations. Caltrans shall have no responsibility to meet debt service obligations on any debt incurred by CPTC in the course of developing and operating the Private Transportation Project, and neither Caltrans nor any other public entity shall be required to continue toll collection in the event of a CPTC Default hereunder which is not cured or remedied by CPTC or Lender as herein permitted. Caltrans shall be free, at its sole option, to continue toll collection and repay CPTC's debt with respect to the Private Transportation Project as provided in Section 16.4 hereof; provided, however, that the foregoing shall be subject to Article 16 hereof and to any consent, agreement or other instrument executed by Caltrans in favor of CPTC's Lenders or Leasehold Mortgagees.

Caltrans shall, to the maximum extent consistent with Laws and Regulations, assist CPTC with documentation reasonably necessary to obtain and maintain financing for the development, property acquisition, design, construction and subsequent operation and maintenance of the Private Transportation Project. Caltrans' assistance may include

reviewing, approving and executing documents which substantiate the terms and conditions of this Agreement. In addition, Caltrans shall, promptly upon request of CPTC, execute, acknowledge and deliver to CPTC, or any other party specified by CPTC, standard consents and estoppel certificates.

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